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ABSTRACT

The study design and interim findings of the study conducted to determine the impact of bilingual education on students in the cognitive and affective domains in a nationally representative sample of Spanish/English bilingual projects are presented. The results summarized reflect the pre-post test period of data collection of the academic year 1975-76. Elementary students enrolled in bilingual projects were contrasted with students not enrolled in such projects. Standardized achievement tests were used to measure performance in language arts and mathematics computation in both languages. Information was collected on student and teacher characteristics and attitudes. Results from teacher questionnaires indicate that less than a third of all students in Title VII classrooms were there because of limited-English speaking ability. Title VII teachers and aides were more proficient in Spanish and English than non-Title VII staff. In terms of students of limited English-speaking ability achieving competency in English, projects which have been operating four to five years are said to not be generally effective. Encouraging results are said to be encountered in mathematics. It is claimed that no clear trend was found to indicate that participation in Title VII brought about an increase in positive attitude toward school. (CLK)

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EVALUATION OF THE IMPACT
OF
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BILINGUAL EDUCATION PROGRAM

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Volume I: Study Design and Interim Findings

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Volume I: Study Design and Interim Findings

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PREFACE

This report presents the basic design of the Impact Study of the Elementary and Secondary Education Act Title VII Spanish/English Bilingual Program and interim findings based on the data collected during the Study's first year of field data collection. Volume I presents the Study design and interim findings based on the two student test data points during the 1975-76 school year, and Volume II contains detailed site descriptions of the participating projects and districts. Additional Impact Study reports will appear subsequently and will include Volume III which will treat the third test data point collected during the Study's second field data collection year (1976-77) and analyses related to all three data points. The current report primarily addresses student outcome measures in English Language Arts, Spanish Language Arts, Mathematics, and student attitudes toward school. Also presented are additional per pupil costs for Title VII and non-Title VII students. Unusually effective and unusually ineffective education treatments associated with the student outcome measures are examined.

The Impact Study is one of three studies concerned with the evaluation of bilingual education projects funded by the U.S. Office of Education under a contract with the American Institutes for Research. The two other studies have been completed, and their final reports have been prepared:

> Study of Bilingual-Bicultural Projects Involving Native American, Indo-European, Asian and Pacific Language Groups (AIR Report 48300-9/75-FR(II)), September 1975 (ERIC Report #ED 123-894)
>
> The Identification and Description of Exemplary Bilingual Education Programs (AIR Report 48300-8/75-FR(I)), August 1975 (ERIC Report #ED 123-893)

Copies of the Impact Study reports (Volumes I and II) are available from the U.S. Office of Education, Office of Planning, Budgeting, and Evaluation, 400 Maryland Avenue S.W., Federal Office Building #6, Washington, D.C. 20202. Copies also can be obtained through the ERIC system. Copies of the various questionnaires and other non-copyrighted data collection instruments used in the Impact Study are also on file with the ERIC system. Publishers of the cognitive tests should be contacted directly.

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Pajaro Valley Unified School District, California

Bay Area Bilingual Education League (BABEL)
Jefferson Elementary School District, California

Bilingual Foundation for School Success
Bridgeport Board of Education, Connecticut

Project EXITO
Hartford Board of Education, Connecticut

Jackson-McLaren Elementary Bilingual-Bicultural Center
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Detroit's Comprehensive Bilingual-Bicultural Education Program
School District of Detroit, Michigan

Bilingual-Bicultural Program for Spanish/English Speaking Students
Grand Rapids Public Schools, Michigan

Taos Bilingual-Bicultural Program
Taos Municipal Schools, New Mexico

Project Better Communication
New Brunswick Board of Education, New Jersey

Bilingual Education Program
Buffalo Public Schools, New York

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Podemos Ser Juntos Amigos
Pharr-San Juan-Alamo Independent School District, Texas

Amistad Bilingual Education Program
Southside Independent School District, Texas

Bishop Bilingual Program
Bishop Consolidated School District, Texas

Eagle Pass Elementary Bilingual Education Program
Eagle Pass Independent School District, Texas

Developing Bilingual Citizens
Rio Grande Consolidated Independent School District, Texas

Robstown Bilingual Education Program
Robstown Independent School District, Texas

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Berkeley, California

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ABSTRACT

Background and Rationale

The Elementary and Secondary Education Act Title VII Bilingual Education Program was established by Congress in 1968 to meet the special education needs of students of limited English-speaking ability in the United States so that they could eventually achieve competence in the English language. In 1974, in response to a Congressional mandate to assess the status of federally funded bilingual education projects in the United States, the U.S. Office of Education/Office of Planning, Budgeting, and Evaluation contracted with the American Institutes for Research (AIR) to conduct an "Impact" study of such projects. Up to that time, no large-scale national evaluation of the effectiveness of the Title VII Program had been conducted. The resultant study was to determine the impact of bilingual education on students in the cognitive and affective domains in a nationally representative sample of Spanish/English bilingual projects funded through Title VII of the Elementary and Secondary Education Act. The first year of data collection occurred during the 1975-76 school year and the results obtained are summarized here.

The Impact Study is one of three studies concerned with the evaluation of bilingual education projects funded by the U.S. Office of Education under a contract with the American Institutes for Research. The two other studies have been completed, and their final reports have been prepared:

> Study of Bilingual/Bicultural Projects Involving Native American, Indo-European, Asian and Pacific Language Groups (AIR Report 48300-9/75-FR(II)), September 1975 (ERIC Report #ED 123-894)
>
> The Identification and Description of Exemplary Bilingual Education Programs (AIR Report 48300-8/75-FR (I)), August 1975 (ERIC Report #ED 123-893)

Study Design

The general design of the Impact Study was one of contrasting the performance of two groups of students: those enrolled in Title VII Spanish/English bilingual projects and comparable students not enrolled in such projects. Students from grades 2 through 6 in each group were pretested and

posttested during the 1975-76 school year. In addition, the characteristics of projects in operation were documented thoroughly for a subsample of all classrooms of students involved in the Study.

The Sample

All projects in their fourth or fifth year of federal funding during the 197[illegible] school year were evaluated in the Impact Study. From the total pool of Title VII classrooms present in each of the thirty-eight project sites, a stratified random sample was drawn which included at least one classroom for each site from every grade from second through sixth; moreover, to the extent that participating sites would agree to testing, additional classrooms were randomly chosen so that approximately 40% to 50% of the Title VII classrooms in each participating site were tested. In addition, non-Title VII classrooms were selected for testing in those sites able to nominate non-Title VII classrooms within or near their district whose students were comparable to Title VII students in terms of ethnicity, socioeconomic status, and grade level. In all, over 11,500 students in 384 classrooms in 150 schools at thirty-eight different sites across the United States were included in the Impact Study. (One of the thirty-eight sites was not included in the analyses of fall 1975 and spring 1976 achievement growth because it was not possible to conduct the first testing before early in February 1976.)

Data Collection

Instruments were selected or developed to measure student performance in English Reading, Mathematics, and Spanish Reading. In addition, information was collected via a student questionnaire about student background factors and student attitude toward school-related activities. To assess teacher characteristics and attitudes toward bilingual education, a teacher/teacher aide questionnaire was developed. Similar questionnaires were designed for assessing the attitudes of parents and advisory committee members toward bilingual education. To document the educational experiences of subsets of students in the sample, instruments were designed for structuring interviews conducted with personnel at those sites selected and in observing classrooms.

Each student was assigned a testing package containing tests appropriate to his/her level of language competence (as judged by his/her teacher): English monolingual, Spanish monolingual, Spanish-dominant bilingual, English-dominant bilingual. The testing sessions, lasting a total of approximately six hours, were conducted in the fall (around November) and spring (around May) of the 1975-76 school year. The educational experiences of students in selected classrooms in the sample were documented during site visits made by AIR staff during the school year.

Data Analysis

The general analysis strategy was to assess the overall effectiveness of the Title VII Spanish/English Bilingual Education Program and to identify highly effective or ineffective approaches to Spanish/English bilingual education. Performance levels of students in Title VII bilingual classrooms were contrasted with those of comparable students in non-Title VII classrooms, as well as with national norms--where such norms were available for the particular test instrument used.

Interim Results

Characteristics of Participating Students

Approximately three-quarters of the students enrolled in the Title VII Spanish/English bilingual classrooms were of Hispanic origin. Generally less than a third of all students in the Title VII classrooms were there because of their limited English-speaking ability. For students who were of Hispanic background, 35% in the second-grade classrooms were there because of their limited English-speaking ability. In grades 3, 4, 5, and 6, the corresponding percentages were, respectively, 30%, 29%, 19%, and 27%.

Characteristics of Teachers/Aides

As a group, Title VII teachers were generally more proficient in English and Spanish than were non-Title VII teachers. Also, Title VII aides were generally more proficient in Spanish or Spanish and English than were non-Title VII aides. Eighty percent of Title VII teachers had a regular or bilingual teaching credential, and about 30% reported having master's degrees.

General Project Data and Costs

Most of the Title VII projects in their fourth or fifth year of funding were implementing a Spanish maintenance bilingual program. Only 5% of the project directors indicated that a Spanish-dominant student is transferred from the project to an English-only classroom with no Spanish language maintenence once he/she learns English well enough to function in school.

Related to the question of the stability of project management, 10% of the projects reported having more than two directors during the past four to five years. About one-third had had the same director since the project's inception.

Per pupil costs associated with Title VII were found to vary among geographical regions. These costs for Title VII students from Title VII funds ranged from $150 to $739 with an average of $310. When other non-district funds are added, the total non-district-supported per pupil costs for Title VII students ranged from $321 to $984, with an average of $531. When the total non-district costs are added to the basic district per pupil cost, the grand total for Title VII students ranged from $1,127 to $2,120, with an average of $1,398.

Title VII Program Impact on Student Achievement and Attitude Toward School

The interim results from the first year's data suggest that in terms of one of the major goals of the ESEA Title VII legislation--that of having students of limited English-speaking ability achieve competency in the English language--the projects which have been operating four to five years have not been generally effective.

However, in terms of permitting students to progress in Mathematics, the Title VII projects were able to bring about consistently encouraging results at all grade levels.

While no appropriate norms or comparison groups were available to assess the relative impact of Title VII on the acquisition of Spanish Language Arts, there was an increase in the scores on the Spanish Reading test between the pretest and the posttest for Title VII students.

No clear trend was found which would indicate that participating in Title VII brought about an increase in positive attitude toward school.

All in all, there seems little doubt that most of the students in the Title VII projects included in this evaluation generally were not performing in the English language at expected educational levels. This overall level of performance was not a result of large numbers of Spanish monolingual students being in the program. Rather, the majority of the students were classified by their teachers as being bilingual or English monolingual. While their present level of English proficiency suggests that additional instruction in English Language Arts would be necessary to bring these students up to grade level in English proficiency, it is not evident from the current data of the Impact Study that Title VII bilingual education as presently implemented should be considered as the most appropriate approach for these students.

EVALUATION OF THE IMPACT
OF
ESEA TITLE VII SPANISH/ENGLISH
BILINGUAL EDUCATION PROGRAM

VOLUME I: STUDY DESIGN AND INTERIM FINDINGS

I. BACKGROUND AND OBJECTIVES OF THE IMPACT STUDY

A. Background

The Bilingual Education Program was established in 1968 to meet the special educational needs of students of limited English-speaking ability in the United States. Authorized by Title VII of the Elementary and Secondary Education Act (ESEA) of 1965, as amended (20 U.S. Code 880b), the program provides funds to local educational agencies for the development and implementation of bilingual education projects. Funding is also provided for preservice training, adult education, dropout programs, and vocational programs and courses dealing with the history and culture of the language minority group being served.

The concept of bilingual education was relatively new when Title VII was approved on January 2, 1968. At that time, Congress intended the Program to emphasize research and demonstration projects which would test the effectiveness of bilingual approaches through pilot projects. The 1968 law also stipulated that the students served under Title VII had to be from low-income families. The 1968 Act failed to provide guidelines for determining success in the projects it funded; consequently, after five years, little was known about the components of effective projects. Additionally, guidelines as to what comprised a "bilingual project" were nebulous.

The Bilingual Education Act of 1974 superseded the 1968 Act and was more explicit in defining a bilingual education project. Section 702(a) of the law provides funds "to demonstrate effective ways of providing, for children of limited English-speaking ability, instruction designed to enable them, while using their native language, to achieve competency in the English language." The term "program of bilingual education" is defined in Section 703 as:

> "(A) . . . a program of instruction, designed for children of limited English-speaking ability in elementary or secondary schools, in which, with respect to the years of study to which such program is applicable--

> (i) there is instruction given in, and study of, English and, to the extent necessary to allow a child to progress effectively through the educational system, the native language of the children of limited English-speaking ability, and such instruction is given with appreciation for the cultural heritage of such children, and, with respect to elementary school instruction, such instruction shall, to the extent necessary, be in all courses or subjects of study which will allow a child to progress effectively through the educational system."

The common features of the bilingual projects were in terms of instructional design, evaluation, staff, training, materials acquisition and development, and community participation. In practice, variation within each component existed from project to project, in accord with each district's goals and objectives. For example, factors such as time devoted to each language, mix of limited English-speaking and English-speaking students, time allotted to subject matter, and pattern of first- and second-language usage are variables within a project's instructional design. One project may focus on developing skills in the native language, while simultaneously exposing the students to a systematic audio-lingual approach to the second language. Another project may use the student's native language primarily as a means to teach the second language. The first systematic large-scale assessment of the effectiveness of these various approaches in meeting the goals of the federal bilingual education legislation is the Impact Study of Spanish/English Bilingual Education.

B. Previous Research

The Office of Education funded a process evaluation of the Title VII bilingual education program in 1973. The purpose of this study was to provide planning data and other data necessary for the design of future studies. The study known as A Process Evaluation of the Bilingual Education Program, Title VII Elementary and Secondary Educational Act, collected data and scored projects on the following areas: project background data, instructional program, materials development and acquisition, staff recruitment, parent and community involvement, program planning, program evaluation, and project management and administration. Thirty-four projects were sampled from the 170 projects serving Spanish-speaking students, and results were restricted only to kindergarten through grade 3. This study was not designed to evaluate student achievement or progress.

Another study of bilingual education was undertaken in 1975 by the Comptroller General of the United States. In Bilingual Education: An Unmet Need, the General Accounting Office (GAO) reported on the effectiveness of the Bilingual Education Program in developing effective bilingual educational approaches, training teachers, and developing instructional materials. Selecting sixteen projects, they evaluated the academic progress of a sample of students by reviewing available test data. The bilingual projects reviewed included Spanish, Chinese, French, Portuguese, and the American Indian languages. However, because these projects represented only a small fraction of all the projects in the program, they caution that the results of their analyses of achievement data should not be considered representative of the entire bilingual education program.

In 1976, the U.S. Commission of Education reported to the President and the Congress in The Condition of Bilingual Education in the Nation. This report presents figures on the estimated limited English-speaking population, summarizes federal programs which give special attention to the limited-English speaking, reviews court decisions which have related to the educational concerns of the limited-English speaking, and discusses limitations of bilingual education. One of these limitations has been the sparse evidence of the effectiveness of bilingual education.

The Impact Study of Spanish/English Bilingual Education is unique in that it is the only study which has collected achievement and attitudinal data on a national sample of Title VII projects. Furthermore, comprehensive classroom observations which systematically looked at instructional strategies, materials in use, and curriculum programs were made on a sample of classrooms. Extensive interviews with project and district staff were held at each project. Parents and advisory committees as well as teacher and teacher aides received questionnaires.

Of all the evaluations of Title VII, the Impact Study has attempted to be the most comprehensive, in that it takes into account the various approaches being used, assesses student growth in two languages, and collects information from all levels of the project (district, school, and classroom) as well as the community served.

C. Objectives

The Impact Study was initiated by the U.S. Office of Education in July 1974 in response to a congressional mandate to assess the status of the federally funded bilingual education projects across the country. Essentially, the following objectives of this assessment were set forth in the Request for Proposal issued by USOE and guided the planning and implementation of the Study:

- To determine the impact of bilingual education on students in the cognitive and affective domains in a nationally representative sample of Spanish/English bilingual projects funded through ESEA Title VII
- To describe the input and process variables operating in these projects and to group projects meaningfully according to process characteristics
- To identify those process characteristics which result in greater gains in the outcome variables
- To determine the costs associated with various treatments
- To determine, to the extent possible, the effect of racial and ethnic composition of the classroom on the outcome variables

Refinement of these objectives during the planning year of the Study determined the sampling procedures used, data collection instruments selected, data collection strategy employed, and analysis procedures used during the field implementation phase of the Study.

II. SELECTION AND DESIGN OF THE EVALUATION PLAN

A. Preliminary Steps in Selecting the Design

Literature Review: Overview of Strategy and Purpose

To determine critical issues and variables of interest in bilingual education, the American Institutes for Research (AIR) project staff conducted a systematic survey of the available literature, with special emphasis on publications from the last five years. Topic areas reviewed included general categories (e.g., the state of the art in research and program development in bilingual education) and more circumscribed categories (e.g., curricula and materials development, language usage models, staff training and requirements, community involvement, program needs assessment, legislative and administrative regulations, and measurement and evaluation). Sources tapped included books and research reports; journal articles; dissertations; publications of regional educational laboratories and research and development centers; bibliographies and special reports published by the ERIC clearinghouses; Title VII legislation and administrative guidelines; and other federal, state, and local regulations pertinent to planning and implementing bilingual education programs. The results of the literature review are detailed in "A Summary of Pertinent Literature on Bilingual Education" found in Appendix II-A-1 of this report. The literature review integrates diverse, often conflicting, information on program planning and administration, the language component of bilingual education, the cultural component of bilingual education, and classroom variables.

Variables of Interest to Spanish/English Bilingual Education

Through the literature search there emerged a pattern of issues frequently discussed as areas of outstanding concern to bilingual education. AIR staff initially identified those variables which seemed to account for differences among bilingual education projects and which would therefore be of interest to the Impact Study. A listing of these variables is given in Appendix II-A-2. This list of variables was submitted subsequently to the Bilingual Advisory Panel, and members were asked to rank them in order of importance. (There was no one variable which was not considered important by at least one panel member. However, it should be noted that not all the variables could be included in this interim report analysis.)

Variables of interest fell into four general categories: (1) project planning and administration; (2) the roles of native language and second language in the bilingual project; (3) the cultural component of the project; and (4) classroom variables.

B. Evaluation Plan Selected for the Study

In accordance with the approach recommended by the U.S. Office of Education during the planning year of the Study, the basic evaluation plan used was a two-group pretest/posttest design. One of the groups was composed of the students who were members of a representative sample of the grades and classrooms present in ESEA Title VII-supported Spanish/English bilingual education projects that were in their fourth or fifth year of funding during the 1975-76 school year. Second- through sixth-grade classrooms in all thirty-seven[1] eligible Title VII projects were included in the sample.

The second group of students participating in the Impact Study were members of non-Title VII classrooms that had been identified by each participating site as being composed of students who were similar to those in the Title VII classrooms selected for the Impact Study. Comparison classrooms nominated by each site were to contain students who would qualify for bilingual education and who were of essentially the same ethnic background, linguistic competence, and socioeconomic status as the students in Title VII project schools. If possible, the non-Title VII classrooms nominated were to be from the same district as the Title VII classrooms sampled (or from a neighboring district). When a surplus of such classrooms was nominated, AIR randomly selected specific non-Title VII classrooms from among those nominated, the only constraint being that a non-Title VII classrooms should match a Title VII classroom in terms of grade level.

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[1] There were thirty-eight projects in their fourth or fifth year of funding as of the 1975-76 school year. One site could not be included, however, because a teacher strike and a shipping strike of shippers serving the area during fall 1975 would have delayed pretesting until February 1976.

Non-Title students served as the comparison group, the performance of which was compared with that of Title VII students. Use of a nationally normed achievement test also permitted a non-Title VII treatment expectation for test performance to be derived from published norms.

To measure changes in educational outcomes occurring during the 1975-76 school year, data were collected in fall 1975 and again in spring 1976. Student achievement in English language, Mathematics, and Spanish language was assessed. Student attitude and background information was collected by means of specially designed questionnaires, completed either by each individual student or by his/her teacher. Both Spanish and English versions were available for both the Mathematics test and the questionnaires.

Other important aspects of the overall evaluation plan included the collection of (1) attitudinal and background information from all Title VII and non-Title VII teachers and teacher aides and (2) descriptive information on the educational policies and practices of all Title VII projects.

In addition to the data obtained from or pertaining to all Title VII and non-Title VII students sampled, the Impact Study also documented, in depth, the classroom practices of a randomly selected subset of Title VII and non-Title VII classrooms. Approximately one half of all classrooms were selected. AIR site visitors utilized both intensive interviews with teachers and classroom observations to gather this information. Two specially designed forms were used to document the information received. Similar descriptive data on school practices were also obtained and coded on a form designed for that purpose. Lastly, information on the home environment of each Title VII and non-Title VII student in this special subsample was gathered by means of a questionnaire sent to each student's parents.

Test and questionnaire information was also collected in fall 1976 from a sample of students present in the Impact Study during the 1975-76 school year. This additional data point was obtained to permit a fall-to-fall analysis of program impact.

To examine the massive amount of data collected by the Impact Study concerning the performance and educational environments of participating Title VII and non-Title VII students, two final reports were planned. The current report discusses the study design and initial overall findings of the Impact Study based upon the data collected from or pertaining to all Title VII and non-Title VII students and classrooms sampled during the 1975-76 school year. It also contains detailed project descriptions of the participating sites. The second report will focus on the relationship between student performance and the component processes present in Title VII-supported approaches to bilingual education. The analyses conducted will be based upon the data gathered on the special subsample of Title VII and non-Title VII classrooms. This second report will also present the results of the analyses of program impact based upon the student data collected during fall 1975 and fall 1976.

Sampling Procedures and Study Sample

The originally selected sample for the Impact Study consisted of 13,000 students in grades 2 through 6 in 380 classrooms within thirty-five of an estimated fifty-one different districts that were in the fourth or fifth year of receiving Title VII funding as of the 1975-76 school year. However, since only thirty-eight of the original fifty-one projects were actually funded during the 1975-76 school year, the original sampling plan was amended to include in the Impact Study all the projects in their fourth or fifth year of funding.

Because there were far more than 13,000 students in these thirty-eight participating districts in grades 2 through 6, a sampling plan was devised to select a sample that would represent as closely as possible the salient characteristics of the target population while still remaining within the budgetary constraints of the Study. To assist in selecting this sample, participating sites were asked to do the following:

- Supply AIR with a complete list of participating Title VII classrooms serving students in grades 2 through 6
- Nominate non-Title VII classrooms within or nearby their district whose students matched the Title VII students in terms of ethnicity and socioeconomic status and grade level (Eighteen sites encompassing large metropolitan cities or isolated rural areas were unable to comply with this

request, indicating that there were no low SES schools nearby who had students similar in ethnicity and who were not receiving some kind of Title VII support.)

From the pool of Title VII classrooms present in each of the thirty-eight states, a stratified random sample was drawn which included at least one classroom from every grade from second grade to sixth grade and, to the extent that participating sites would agree to additional testing, additional classrooms were randomly chosen so that approximately 40% to 50% of the Title VII classrooms in each participating site would be in the sample. From the pool of non-Title VII classrooms nominated by the sites, classrooms were selected for inclusion in the Impact Study if they were of the same grade level as a corresponding selected Title VII classroom within the site. Where there was more than one potential "match," a random selection was made to select the non-Title VII classroom to be included in the Impact Study.

Unit of analysis. It is important to note that the sampling unit in the Study was the classroom, not the individual student or the school. There are definite reasons for this strategy: (1) Random selection and separate testing of individual students would be financially impossible, and no school would be likely to agree to the disruption of the daily routine necessitated by such testing; and (2) not all the classrooms in a Title VII school directly received Title VII benefits. A representative sample of classrooms receiving Title VII support was considered the best vehicle for an assessment of Title VII impact since it was at that level at which the educational process could be most thoroughly tested and observed. However, one effect of this strategy, given the size of the original sample, was that not every grade in every target school could be represented, even though all the grades within each Title VII project were represented.

Characteristics of sample selected. The actual sample for the Impact Study consisted of 11,073 students in 384 classrooms in 150 schools at 38 sites. Eighteen of the thirty-eight sites did not have non-Title VII classrooms represented. Data from one site (six Title VII classrooms, six non-Title VII classrooms) was not used in our Impact Study analysis because teacher strikes prevented students from being tested in the fall. In addition, thirty-eight classrooms that were supposed to receive Title VII support in 1975-76 did not receive such support, and they were therefore dropped from the sample.

Table II-B-1 shows the distribution of the sample for the Impact Study by grade. We caution against making any inferences about class size from these figures, inasmuch as the number of multigrade classrooms in the Title VII schools is proportionately higher than in non-Title VII schools.

Intensive Subsample. As previously pointed out, budget constraints made it impossible to document and observe the educational procedures in all classrooms selected for testing. Although the testing results from all classrooms would be used for overall Title VII impact assessment, only those classes which were documented and observed could provide data for the detailed study of specific educational practices occurring in the Impact Study sample. A stratification plan was devised to choose those classrooms that would be studied in intensive detail. Within the set of Title VII classrooms analyzed by the Impact Study, half of the classrooms were selected for intensive analysis. Stratification was by grade within site, thereby preserving the basic representativeness of the Intensive Subsample as far as Title VII-related characteristics were concerned. Non-Title VII classrooms were included in the Intensive Subsample in terms of grade level within site. In all, 161 classrooms were selected for intensive analysis, 120 of which were Title VII and 41 of which were non-Title VII classrooms.

TABLE II-B-1

Distribution by Grade of Classrooms and Students Sampled by the Impact Study

	Title VII		Non-Title VII	
Grade	Number of Classrooms	Number of Students	Number of Classrooms	Number of Students
2	59 (20.6%)	1536 (20.9%)	24 (20.9%)	832 (22.4%)
3	72 (25.2%)	1851 (25.1%)	35 (30.4%)	1098 (29.6%)
4	70 (24.5%)	1748 (23.7%)	35 (30.4%)	1083 (29.2%)
5	57 (19.9%)	1390 (18.9%)	12 (10.4%)	411 (11.1%)
6	28 (9.8%)	839 (11.4%)	9 (7.8%)	285 (7.8%)
TOTAL	286* (100%)	7364 (100%)	115* (100%)	3709 (100%)

* There were 384 classrooms actually sampled; these figures do not total 384 because some are multigrade classrooms.

III. DATA COLLECTION INSTRUMENTS USED IN THE STUDY

A. General Categories of Instruments

Instruments were selected or developed to measure student performance in English Reading, Mathematics (tests administered in English and Spanish languag[illegible] and Spanish Reading. To collect information about student background and attitudes, a student questionnaire was developed--portions of which were answered by the students and portions by the teacher. Because of the judged importance of assessing teacher characteristics and attitudes, a Teacher/Teacher Aide Questionnaire was developed. Similar questionnaires were also designed to assess attitudes of parents and advisory committee members toward bilingual education. To document the educational experiences of the students in the sample, two instruments were designed and used by AIR project staff in their interviews with teachers and in their observations of classrooms.

B. Specific Instruments

Student Instruments

Student cognitive outcome measures instruments. Five types of data related to students were collected directly from the students in the classrooms included in the Impact Study sample and also from their teachers, teacher aides, and parents. First, school performance of the students was assessed by standardized tests given in the fall of 1975 and the spring of 1976, both in English and in Spanish. The English Reading tests, consisting of the Comprehensive Tests of Basic Skills, Form S (CTBS/S), Levels C through 2, were given to assess student school performance in English Reading in the fall; in spring the alternate Form T was administered.

At all levels and on all forms of the CTBS tests, the items in the six skill areas measured the following:

- The ability to recognize or recall information
- The ability to translate or convert concepts from one kind of language (verbal or symbolic) to another

- The ability to comprehend concepts and their interrelationships
- The ability to apply techniques, including fundamental operations
- The ability to extend interpretation beyond stated information

CTBS, Form T, is designed to provide an alternate form for CTBS, Form S, that is statistically comparable as well as parallel in content and format. CTBS/S was standardized on a large sample of students, randomly selected from public and private schools throughout the United States. These standardization procedures provided normative data for interpretation of test results to meet a variety of needs. To permit similar interpretation of CTBS/T test results, it was necessary to statistically equate Form T to Form S.

Prior to standardization, all tests were reviewed by both black and Spanish-speaking reviewers. They included teachers, content and curriculum experts, and specialists in the education of minority students. Deletions and revisions of items were made to eliminate any bias against these minority groups that could be detected by the reviewers.

To assess Reading vocabulary and Reading comprehension, only two subtests from the battery--Reading Vocabulary and Reading Comprehension--were administered to the students. The following is similar to an item from the Reading Comprehension section of the CTBS where the student is asked to select the word which completes the sentence most appropriately.

Listen to that dog

1. smile.
2. bark.
3. think.
4. jump.

A sample item from the Reading Vocabulary section is similar to the following where the student is asked to select the word nearest in meaning to the underlined word.

simple test

1. boring
2. easy
3. difficult
4. fair

The Prueba de Lectura (Levels I and II) was administered to assess student school performance in Spanish Reading. The Prueba de Lectura is a Reading test developed by the Department of Public Instruction of the Commonwealth of Puerto Rico in cooperation with the Educational Testing Service (ETS) in Princeton, New Jersey. The tests measure student mastery of Reading skills in Spanish which underlie the ability to understand materials such as stories, poetry, plays, letters, announcements, instructions, and articles of information, opinion, explanation, and interpretation, appropriate at various grade levels. Each test consists of two sections--vocabulary and comprehension-- each with a section measuring a range of behavioral objectives established as a result of extensive curriculum review. Level I of the Prueba was used in grades 2 through 4 and Level II in grades 5 and 6.

Levels I and II of the Prueba de Lectura are Language Arts test batteries each of which consists of four different subtests: Subtest I (the stimulus is a word, and the student is required to respond to a picture); Subtest II (the stimulus is a word: however, the response is a word closely related in meaning or association in usage); Subtest III (the student is required to complete a sentence with the appropriate word or phrase). A sample item from Subtest III is similar to the following where the student is required to select the most appropriate alternative to complete the sentence.

* Si tienes hambre, vete a ____________.

1. dormir 3. leer
2. comer 4. jugar

* Translation:
If you are hungry, go ______________.

1. sleep 3. read
2. eat 4. play

The last subtest of the Preuba de Lectura, Levels I and II, is a Reading comprehension test which consists of passages of different lengths in poetry and prose. For each one of these passages, comprehension questions are asked and/or incomplete statements are given where the student is required to choose appropriately from the distractors within context.

The sample of Spanish-dominant students in the Study is composed of students from different linguistic communities. The Prueba de Lectura had been developed in Puerto Rico and contained some lexical items which in the opinion of the Advisory Panel and AIR staff might be distracting to students. Consequently, staff and consultants reviewed the tests for possible lexical bias. Lexical bias was judged on the basis of those words which were determined not to be generally intelligible to Spanish-speaking students across the nation. For example, the English word kite, which may appear as an item, would be written in Spanish as "chiringa." This word would be unknown to most Spanish-speaking students in the Southwestern United States where they would commonly call a kite "papalote." This word might be unknown to students in the South or Midwest United States who might call a kite a "cometa." Because AIR could not make any changes in the test itself prior to administration (a publisher stipulation), those items which were judged to contain lexical bias were not used in computing the total test score.

The Mathematics portion of the Comprehensive Tests of Basic Skills was administered to both Title VII and non-Title VII comparison students to assess their ability in the areas of computation and the application of certain concepts. The students were tested at grade level: the Level C test was administered to all second-grade students; Level 1, to third- and fourth-grade students; and Level 2, to students in the fifth and sixth grades. Students who were considered to be English dominant in Mathematics received the standardized test booklets published by CTB/McGraw-Hill, while those who were designated as being Spanish dominant received an authorized Spanish translation of the test translated by members of the Impact Study staff.

Several members of the bilingual staff drafted translations of the instruction manuals and the tests to ensure that they would be as faithful as possible to the original tests. In only one case was an example item changed, and this was because the picture in the example had three possible translations in Spanish; to avoid lexical bias, a different example was chosen. In all other cases, the items remained unchanged with the exception of a few proper nouns (children's names) which were substituted to make the test more culturally appropriate. The translators were careful to avoid usage which would be linguistically biased toward any of the students speaking a particular dialect of Spanish, and they aimed at a translation that was appropriate for the age of the students being tested.

To assess student ability to understand oral English, the English as a Second Language Test (ESL) was administered to the students designated as Spanish monolingual or Spanish-dominant bilingual. The ESL Tests, Levels 2 and 3, are taped oral language development tests which assess the students' auditory discrimination skills in English. The test battery consists of four subtests in which the stimulus is a word, a sentence, or a paragraph. The Prueba de Comprensión Auditiva - Inglés, Segundo Nivel, is used for grades 2 through 4, and the Tercer Nivel is used in grades 5 and 6. The entire test takes twenty-seven minutes to administer and complete with no break between sections. An item from the ESL test presents a stimulus on tape in English; for example, the word kite. The student must then choose from three pictures--for instance, one of a cat, one of a cot, and one of a kite--that picture which corresponds to the auditory stimulus. Instructions for the test are presented in Spanish.

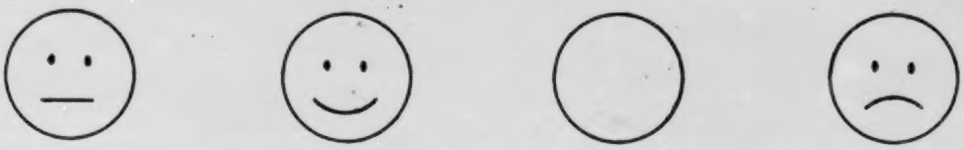
Students' ability to understand oral Spanish was assessed by means of a Spanish as a Second Language (SSL) test. The Spanish as a Second Language Tests, Levels 1 and 2, are taped oral language development tests which assess the students' auditory discrimination skills in Spanish. The test battery consists of three subtests in which the stimulus is either a word, a sentence, or a paragraph. The responses throughout are illustrations. The SSL Test, Level 1, is used for grades 2 through 4, and the Level 2 test is used in grades 5 and 6. The entire test takes thirty-four minutes to administer and complete with no break between sections. Directions and sample practice items for the SSL test are presented in English. A sample item from the SSL test would be the word niña presented as the stimulus with three pictures, one of a woman (señora), one of a girl (niña), and one of a boy (niño). The student is to indicate which picture corresponds to the stimulus.

Student background and attitude questionnaire. A Student Questionnaire for assessing student attitudes toward school, self, and languages was developed by the AIR staff. The Student Questionnaire is available in two forms, Spanish and English. It was developed to be used with elementary school age students and consists of two parts. The first part of the questionnaire is in standard multiple-choice format and consists of twenty-two questions assessing the student's attitude toward Spanish and English instruction, attitude toward the Spanish and English languages, and attitude toward school. The following is a sample question from this section. The student is asked to check the phrase which represents his/her attitude.

I like reading in Spanish
( )...A lot
( )...It's O.K.
( )...Not much
( )...I don't like it at all
( )... I don't read in Spanish

The second section of the Student Questionnaire consists of twenty-two questions in the "happy face" format. The student selects the face that corresponds to how he/she feels about the item. When administering the Student Questionnaire, the test administrator carefully explains the meaning of each face. While this is fairly obvious for the smiling face (happy) or the frowning face (unhappy), the test administrator goes over the other two faces until assured that all the students understand. The face with the straight-line mouth represents a neutral attitude (it's all right), and the blank face is the appropriate response for an item that does not apply to the student. The blank face alternatives were particularly important when considering that the identical questionnaire was administered to non-Title VII comparison students. The following is an example:

When I speak Spanish, I feel



The items in this section assess the student's attitude toward school, Spanish and English instruction, peer groups, and the student's self-concept. When administering the Student Questionnaire, the test administrator reads each item out loud to the group. Total administration time is thirty minutes.

When assessing student characteristics, there are some areas in which the teaching staff may be more competent than the student to answer questions. For this reason there was also a teacher-completed version of the Student Questionnaire. This instrument taps the area of student background characteristics and consists of fifteen items which the teaching staff completes for each student. The following is a sample question from this section:

This student has been involved in bilingual education classes for

( )...1 year or less
( )...2 years
( )...3 years
( )...4 years
( )...5 years
( )...6 years or more
( )...I don't know

Teacher Background and Attitude Questionnaire

Additional data were collected from the instructional staff by the use of the Teacher/Teacher Aide Questionnaire.

Since teacher characteristics are a factor affecting student school performance, the teachers and teacher aides responsible for the students included in the Impact Study were given the Teacher/Teacher Aide

Questionnaire. It was disseminated during the fall and spring data collection process and given to all the Title VII teachers and teacher aides and also to the non-Title VII comparison teachers and aides. Consisting of fifty-two multiple-choice items, the Teacher/Teacher Aide Questionnaire was printed in a Spanish/English bilingual version.

This questionnaire was constructed by AIR staff in the winter of 1975 and contained items addressing the instructional staff's attitudes, opinions, and expertise in bilingual education. Specific variables of interest were the relationship between the instructional staff background characteristics and (1) bilinguality, (2) professional training, (3) bilingual training, (4) cultural identification, and (5) experience and student expectations. Other related variables were the staff relationships, the roles of the aides, the roles of teachers in implementation of the project, and the teachers' relationships with the principal and the project director.

Parent Questionnaire

To assess the impact of Title VII projects, it is important to determine the environment in which each Title VII project functions. The Parent Questionnaire is one way to obtain this information. Because of the difficulties encountered with the dissemination of a questionnaire which goes to the student's home, this questionnaire was distributed only to parents of students involved in the Intensive Subsample.

The Parent Questionnaire consisted of twenty-five multiple-choice items on a bilingual English/Spanish form. The items assessed such variables as community support for the bilingual project, language usage and attitudes, and cultural identification.

This questionnaire was distributed to the classrooms included in the Intensive Subsample. Teachers were asked to disseminate the questionnaire to their students, explaining to them that their parents would receive a Bicentennial silver dollar when they returned the questionnaire. The parents were asked to return the questionnaire to AIR by mail. Those who answered and returned the questionnaire received a Bicentennial silver dollar as a token of appreciation for their cooperation. A sample item from the Parent Questionnaire is as follows:

It is important for my child to learn about other cultures.

( )...Strongly agree
( )...Agree
( )...Disagree
( )...Strongly Disagree
( )...No opinion

Advisory Committee Questionnaire

Additional information on the environment within which the Title VII projects function was collected by the Advisory Committee Questionnaire. Since every Title VII project is required to convene an Advisory Committee, this group seemed a good source for assessing community interest and support for the project. Consequently, a series of questions was designed to match community members' perceptions of program goals with teachers' and administrators' perceptions of program goals.

A sample question from the Advisory Committee Questionnaire is as follows:

Community support for the bilingual program is

( )...Very high
( )...High
( )...Moderate
( )...Low
( )...Very low
( )...I don't know

All completed questionnaires were mailed directly to AIR.

Educational Treatment Interview Guides

Information related to the educational treatment implemented by Title VII project and comparison schools was collected by AIR project staff during site visits primarily through the use of the Educational Experience Analysis Guide (EdExAG) and the Classroom Observation Instrument.

The Educational Experience Analysis Guide. The Educational Experience Analysis Guide (EdExAG) was designed to obtain information through a series of interviews given at the project level, the school level, and the classroom level, using a different component for each level. It was used to determine characteristics which were unique to a given project and to ascertain the effect of the project on the educational experience of the student.

The information obtained through the EdExAG can be used to compare distinctive features which are shared by ESEA Title VII-funded schools. It can also be used to show similarities which may exist within individual classrooms in both Title VII and non-Title VII schools.

The EdExAG was designed in such a way that one can ascribe the characteristics of a given project to each of the schools within it, the characteristics of the school to each of its classrooms, and the unique characteristics of the classroom to the individual student. This information, coupled with that obtained from the Teacher Questionnaire and the Classroom Observation Instrument, was used to document the particular treatment in a given classroom.

When using the EdExAG to assess non-Title VII comparison classrooms, certain questions were selected from the EdExAG, Project Level, and were asked at the district level. Additional information was gathered on the school level pertaining to per pupil cost for both Title VII and non-Title VII comparison students. A copy of each level of the EdExAG can be found in Appendix III-B-1.

- EdExAG, Project Level. The portion of the EdExAG used at the project level tapped information related to six variables thought to affect student outcome: the function and varying degrees of input of the project support personnel, the variations in staffing patterns over the lifetime of the project, the various means of enlisting community and parental support for the project, the degree of support accorded the project by the local school district, the degree of support accorded the project by the state, and the different types of formative evaluation used by the project as a means of self-assessment. The Guide also collected information pertaining to the total number of schools, classrooms, and students within the project. These figures were used to determine the per pupil cost within the bilingual classrooms. In addition, the Guide determined the status of the student within the bilingual project once he/she had achieved a high level of language competence in either English or Spanish.

- EdExAG, School Level. The variable examined at the school level was the relationship between community characteristics and student outcome. To assess the viability of this variable, several elements were considered: the socioeconomic status of the community, the community setting (whether urban or rural), the mobility patterns of the families that are served by the local school, the language dominance and ethnicity of the local community, and the attitudes of community members toward the school.

- EdExAG, Classroom Level. The classroom level interview was used to collect in-depth information related to classroom treatment. Fourteen variables were assessed in this instrument: (1) the language dominance of the instructional staff; (2) teacher and staff attitudes toward languages used by students in the classroom; (3) the relationship between the support personnel and the students; (4) the relationship between the duties of the classroom aides and their effect upon the students; (5) the degree of parental involvement in the classroom; (6) the effect of language instruction in English and in Spanish; (7) the methodologies employed in teaching English and Spanish; (8) the effectiveness of the Reading program; (9) the effectiveness of the cultural component; (10) the relevance of the materials used for instruction from a cultural standpoint; (11) the types of grouping patterns employed in the classroom; (12) the richness of the classroom environment; (13) the use of diagnostic information; and (14) the types of formative evaluation employed within the classroom.

Classroom Observation Instrument. The Classroom Observation Instrument was designed to obtain information about three important aspects of the classroom environment in both bilingual and non-bilingual settings: the physical environment of the classroom with emphasis on the bicultural aspects; the interactions between teachers, aides, and students in various learning situations; and the use of languages, primarily English and Spanish, by adults and students in the instructional setting.

Essentially, the Classroom Observation Instrument is a checklist for recording easily observable behaviors and situations. This reduces to a minimum the number of subjective judgments made by the observer and thus increases the reliability of the instrument. A few identification items were completed by briefly interviewing the teacher just before or just after the observation period. However, most items were recorded during the observation interval and reflect the observed behaviors. There were no time limits set for recording information contained in the first two sections of the instrument. However, observers were advised to spend the first ten to fifteen minutes of the observation period getting the "feel" of the classroom. During this time the checklists for "Description of Classroom Space," "Seating Patterns," and "Classroom Displays" were completed. The items related to "Comfort Index" and anecdotal information on the bilingual/bicultural emphasis were to be completed following the observation. Three subject matter periods were observed in each classroom: Language Arts/English, Language Arts/Spanish, and Mathematics. In addition, a cultural component was selected for observation in situations where it was included in the bilingual classroom. The form was designed to show group characteristics and patterns, the activities in which students and teachers are engaged, the materials and skills being used in teaching/learning, the language(s) used during instruction, and the degree of teacher acknowledgment and student attention.

Observers completed a minimum of ten observations per subject class. Primary attention was focused on the adult's interactions with individuals or groups of students during the instructional period. Attention was focused on one student group at a time. As soon as the activities of that group were recorded, the observer moved to the second student group and completed all observations for that group. The observer worked systematically around the classroom until all student groups had been observed. If time permitted, a second round of observations was completed for each group.

This instrument contains fourteen separate categories of information which relate to a number of classroom variables which affect student performance. The relationship between classroom grouping patterns and student outcome measures was examined by the categories specifying group size, group ethnicity, and classroom organization. A record of the ethnic mix of groups and the flexibility of grouping in terms of size and structure were assessed. The racial/ethnic categories were established in consultation with the U.S. Office of Education.

Other categories of variables assessed by the instrument were the content areas in which a language is used, the frequency with which it is used, and who uses it (teachers, students, aides, etc.).

The kinds of materials used in certain subject areas tapped a variable examining the relationship between the use of culturally relevant materials and student performance and the quality and quantity of interactions between students and peers and between students and teachers/staff.

All observers received training and practice in using the Classroom Observation Instrument before going into the field.

Student Exposure to Treatment Measures

Of particular importance to the Impact Study was determining the amount of time (days) a student had been exposed to a bilingual or comparison school curriculum. To assess the number of school days attended for each student, a question was appended to the Student Questionnaire, teacher-completed version, asking for the number of absences for each student from the pretest date to the posttest date.

C. Allocation of Tests to Individual Students

The data collection strategy for the Impact Study was composed of two major thrusts: collection of student achievement and attitudinal data and collection of treatment information. Several considerations had to be resolved to collect valid student information from such a linguistically and culturally diverse student population. The following sections describe the unique features of the testing package assessing student achievement. The overall focus of this section is on the procedures taken to collect student achievement and attitudinal information. The subsequent section considers the collection of the treatment information.

Construction of Test Packages

Input from AIR's Advisory Panel and AIR's experience in the field suggested that an innovative approach had to be taken to measure the scholastic achievement of students whose mother tongue was not English. Further documentation from the field indicated that the linguistic ability of the students ranged from monolingual Spanish speakers (learning pre-reading skills in Spanish and simultaneously learning audio-lingual skills in English) to students who were monolingual English speakers. An additional complication was that the native-English-speaking students were being exposed in some cases to a systematic Spanish as a Second Language program or in other cases participated in a very limited Spanish Language Arts program. The basic problem was how to assess the scholastic achievement of students of different linguistic backgrounds in the same classroom.

Previous sections have elaborated on the instruments selected. The basic problem confronting AIR after the test selection was to develop a strategy for assuring that each student, given his/her language proficiency, would be tested with the appropriate tests. With this in mind, AIR developed four different color-coded test packages, each tailored to the particular linguistic ability of the student.

For the student who was English dominant (i.e., English dominant in Reading and Mathematics), the following tests were administered in the fall and spring:

- Spanish as a Second Language Test
- CTBS, Form S or T, Reading (appropriate level for grade)
- CTBS, Form S, Mathematics Test (appropriate level or grade)
- Student Questionnaire (English version)

The use of the Spanish as a Second Language Test with these students was intended to assess any oral Spanish language development which may have occurred in their classrooms.

The student who was bilingual (i.e., bilingual in Reading and knows Mathematics in English) was given the following test package:

- Spanish as a Second Language Test
- CTBS, Forms S or T, Reading (appropriate level for grade)
- CTBS, Form S, Mathematics Test (appropriate level for grade)
- Student Questionnaire (English version)
- Prueba de Lectura (appropriate level for grade)

When it was necessary to assess the student's reading ability in both English and Spanish, the student took two reading tests, one in English and one in Spanish.

For the Spanish-dominant student (i.e., Spanish-dominant in Reading and Mathematics), the following test package was given in fall and spring:

- Prueba de Comprensíon Auditiva-Inglés (appropriate level for grade)
- CTBS, Form S, Level C Reading Test
- CTBS, Form S, Mathematics Test (Spanish translation, appropriate level for grade)
- Student Questionnaire (Spanish version)
- Prueba de Lectura (appropriate level for grade)

The reader will note that the Spanish-dominant student was given two tests to assess English competence: the Prueba de Comprensíon Auditiva (which assessed English as a Second Language aural discrimination) and the CTBS, Form S, Level C Reading, regardless of the grade level. These tests were necessary to assess any English-language competence which the student may have achieved. In some cases it was thought that only an aural discrimination test would be appropriate for the Spanish-dominant student. However, in the event that development may have occurred beyond the aural stage of English communication, it was essential to assess this growth on the lowest level of the CTBS (Level C) Reading test administered.

For the student who was bilingual (i.e., bilingual in Reading and knows Mathematics in Spanish), the following test package was assembled:

- Spanish as a Second Language Test
- CTBS, Form S, Reading (appropriate level for grade)
- CTBS, Form S, Mathematics Test (Spanish translation, appropriate level for grade)
- Student Questionnaire (Spanish version)
- Prueba de Lectura (appropriate level for grade)

Table III-C-1 summarizes the test packages given at each grade level. The problem of how to assign to the students the testing packages most appropriate to their ability still remained. Here, it was essential that the teacher select the testing package appropriate for each student.

Assignment of Test Packages to Students

To assign individual testing packages to students, a roster was sent to each classroom teacher with a list of the names of the students in his/her classroom. The teacher was asked to indicate that category which best described each student:

- This student is English dominant (Reading and Mathematics)
- This student is bilingual in Reading and knows Mathematics in English
- This student is Spanish dominant (Reading and Mathematics)
- This student is bilingual in Reading and knows Mathematics in Spanish.

This roster was then mailed back to AIR where the appropriate number of color-coded packets for each classroom were assembled.

Test Administration Schedule

The testing sessions were usually conducted in two groups, one administered primarily in Spanish and one primarily in English.

Table III-C-1

STUDENT TEST PACKETS

GRADE 2

Spanish Dominant in Reading and Mathematics:

ESL (tape level 2); CTBS/S Level C (Reading); Spanish Mathematics (CTBS-Level C); Spanish Student Questionnaire; Prueba de Lectura Level I

Bilingual in Reading and Knows Mathematics in English:

SSL (only one level); CTBS/S Level C (with Mathematics); English Student Questionnaire; Prueba de Lectura I

Bilingual in Reading and Knows Mathematics in Spanish:

SSL; CTBS (Reading) Level C, Spanish Mathematics (CTBS-Level C); Spanish Student Questionnaire; Prueba de Lectura I

English Dominant in Reading and Mathematics:

SSL; CTBS Level C (with Mathematics); English Student Questionnaire

GRADES 3 and 4

Spanish Dominant in Reading and Mathematics:

ESL (tape level 2); CTBS/S Level C (Reading); Spanish Mathematics (CTBS-Level 1); Spanish Student Questionnaire; Prueba de Lectura Level I

Bilingual in Reading and Knows Mathematics in English:

SSL; CTBS/S Level 1 (with Mathematics); English Student Questionnaire, Prueba de Lectura I

Bilingual in Reading and Knows Mathematics in Spanish:

SSL; CTBS/S Level 1 (Reading); Spanish Mathematics (CTBS-Level 1); Spanish Student Questionnaire, Prueba de Lectura I

English Dominant in Reading and Mathematics:

SSL; CTBS Level 1 (with Mathematics); English Student Questionnaire

(continued)

TABLE III-C-1 (Continued)

GRADES 5 and 6

Spanish Dominant in Reading and Mathematics:

ESL (tape level 3); CTBS Level C (Reading); Spanish Mathematics (CTBS-Level 2); Spanish Student Questionnaire; Prueba de Lectura Level 2

Bilingual in Reading and Knows Mathematics in English:

SSL; CTBS/S Level 2 (with Mathematics); English Student Questionnaire; Prueba de Lectura II

Bilingual in Reading and Knows Mathematics in Spanish:

SSL; CTBS/S (Reading) Level 2, Spanish Mathematics (CTBS-Level 2); Spanish Student Questionnaire; Prueba de Lectura II

English Dominant in Reading and Mathematics:

SSL; CTBS Level 2 (with Mathematics); English Student Questionnaire

The students were assigned to testing groups daily according to the testing packets which were assigned to them on the basis of the class roster classifications made by the teacher. The testing was scheduled to take two mornings for the English language group and three mornings for the Spanish language and bilingual groups. The testing schedule for each grade level was as shown in Table III-C-2.

Testing dates ranged in the fall from November 4 to December 12 and in the spring from April 6 to June 9. In general, sites which were tested early in the fall were tested early in the spring, and sites which were tested late in the fall were tested late in the spring. See Appendix III-C-2 for a graphic representation of all site testing dates.

Test Administration Team

The testing team at each site consisted of a local data coordinator (LDC), who acted as the liaison between AIR and the school district, and several test administrators and proctors. Prior to the fall testing, the staff from AIR convened regional conferences for training the LDCs in administrative procedures relevant to the study. In selecting the LDCs, AIR relied upon the references of the local project directors and/or the superintendent's office of individuals who were experienced in testing and had knowledge of the district and bilingual project. At the regional conferences, a one-day training session consisting of explanations of the objectives of the Impact Study to the LDCs, the tests to be used, the grouping of students, the training of test administrators, and the supervision of the testing procedure was held.

After the regional meetings, the LDCs were instructed to interview qualified individuals for test administrators and to train them. They were also charged with checking at each school site with the principals and teachers to insure adequate facilities for all the testing groups, to oversee the testing, and to comply with the testing schedule.

Data Management and Logistical Control

The Bilingual Study is noteworthy in terms of both the magnitude and the complexity of the data base produced. To ensure that the collection

Table III-C-2

TESTING SCHEDULE FOR GRADE 2*

	SPANISH LANGUAGE GROUP	ENGLISH LANGUAGE GROUP
First Day	TOTAL TIME = 113 min. • Prueba de Comprension Auditiva Ingles (ESL taped test) Level 2 — 27 min. Break time — 15 min. CTBS Level C Reading (Test 1 - Vocabulary Test 2 - Comprehension: Sentences Test 3 - Comprehension: Passages) — 71 min.	TOTAL TIME = 106 min. • Spanish as a Second Language Level 1 (taped test) — 20 min. Break time — 15 min. • CTBS Level C Reading (Test 1 - Vocabulary Test 2 - Comprehension: Sentences Test 3 - Comprehension: Passages) (pages 2-9 in Student Booklet) — 71 min.
Second Day	TOTAL TIME = 124 min. • CTBS Level C Mathematics (Spanish) (Calculos, Conceptos) — 79 min. Break time — 15 min. • Student Questionnaire (Spanish) — 30 min.	TOTAL TIME = 124 min. • CTBS Level C Mathematics (English) (Test 7 - Computation Test 8 - Concepts and Applications) (pages 17-23 in Student Booklet) — 79 min. Break time — 15 min. • Student Questionnaire (English) — 30 min.
Third Day	TOTAL TIME = 71 min. Prueba de Lectura Nivel 1 — 71 min.	NO TESTING

* All answers to be marked in test booklets.

(continued)

Table III-C-2 (continued)

TESTING SCHEDULE FOR GRADES 3/4

SPANISH LANGUAGE GROUP		ENGLISH LANGUAGE GROUP	
First		Day	
TOTAL TIME = 113 min.		TOTAL TIME = 100 min.	
• Prueba de Comprension Auditiva Ingles (ESL taped test)** Level 2	27 min.	• Spanish as a Second Language Level 2 (taped test)**	20 min.
Break time	15 min.	Break time	15 min.
• CTBS Level C Reading* (Test 1 - Vocabulary Test 2 - Comprehension: Sentences Test 3 - Comprehension: Passages)	71 min.	• CTBS Level 1 Reading* (Test 1 - Vocabulary Test 2 - Comprehension) (pages 2-9 in Student Booklet)	65 min.
Second		Day	
TOTAL TIME = 130 min.		TOTAL TIME = 130 min.	
• CTBS Level 1 Mathematics (Spanish)* (Calculos, Conceptos)	85 min.	• CTBS Level 1 Mathematics (English)* (Test 6 - Computation Test 7 - Concepts and Applications) (pages 15-20 in Student Booklet)	85 min.
Break time	15 min.	Break time	15 min.
• Student Questionnaire* (Spanish)	30 min.	• Student Questionnaire* (English)	30 min.
Third		Day	
TOTAL TIME = 71 min.		NO TESTING	
• Prueba de Lectura Nivel 1**	71 min.		

(continued)

* Students mark answers in test booklets.

** Students mark answers on answer sheets.

Table III-C-2 (continued)

TESTING SCHEDULE FOR GRADES 5/6

	SPANISH LANGUAGE GROUP		ENGLISH LANGUAGE GROUP	
First Day	TOTAL TIME = 113 min.		TOTAL TIME = 99 min.	
	• Prueba de Comprension Auditiva Ingles (ESL taped test)** Level 3	27 min.	• Spanish as a Second Language Level 2 (taped test)**	20 min.
	Break time	15 min.	Break time	15 min.
	• CTBS Level C Reading* (Test 1 - Vocabulary Test 2 - Comprehension: Sentences Test 3 - Comprehension: Passages	71 min.	• CTBS Level 2 Reading** (Test 1 - Vocabulary Test 2 - Comprehension) (pages 3-14 in Student Booklet)	64 min.
Second Day	TOTAL TIME = 131 min.		TOTAL TIME = 131 min.	
	• CTBS Level 2 Mathematics (Spanish)** (Test 6 - Calculos Test 7 - Conceptos)	86 min.	• CTBS Level 2 Mathematics (English)** (Test 6 - Computation Test 7 - Concepts and Applications) (pages 29-41 in Student Booklet)	86 min.
	Break time	15 min.	Break time	15 min.
	• Student Questionnaire* (Spanish)	30 min.	• Student Questionnaire* (English)	30 min.
Third Day	TOTAL TIME = 60 min.		NO TESTING	
	• Prueba de Lectura Nivel 2**	60 min.		

* Students mark answers in test booklets.

** Students mark answers on answer sheets.

and processing of all information proceeded in a timely and efficient manner, a dual system of logistical control (preparation of forms, shipping, quality control, and editing) and data management (ID specification, interrelation of data sets, scoring of raw data, detection of special cases, and pre-analysis programming) was devised.

Logistical control. Because of the volume of data involved, it was decided to utilize optical scoring of answer sheets wherever economically feasible. Standard CTBS test materials were used where possible, but the rest of the test and answer sheets had to be specially designed for this study. Layouts of each form were designed and proofed in conjunction with the scoring services contracted to do the optical scanning.

Several charts depicting the rules under which each student would receive a set of test materials tailored according to that student's linguistic abilities were drawn up. By extrapolating from staff estimates of proportions of language dominance in the group of students to be tested, forms were ordered in sufficient quantity to meet the requirements of every testing situation, including extra forms for new students.

Confidentiality requirements necessitated that the name of each student not be permanently affixed to the raw data instruments. Rather than rely on ID numbers alone, it was decided to use a unique type of computerized, stick-on label which would allow the name of the student to be removed at the time of testing while a numeric ID remained. Thus, every form was pre-identified by placing a label upon it bearing the name and ID number of the student who was to fill out the form. After the form was used, the responding student could still be accurately identified by his/her ID number, which was still on the form.

Student level materials were prepared as a set, with each student receiving a color-coded packet designed to match his/her grade level and linguistic ability. These materials were packed by classroom and shipped to the sites. (Test administration material was shipped several weeks earlier.) Checklists were provided so that any anomalies (new students, missing forms, etc.) could be corrected prior to testing or noted for later action.

Once the completed materials were returned from the sites, a detailed sequence of quality control operations was initiated. Wrinkled, torn, smudged, and poorly erased forms were replaced with clean copies, and IDs were gridded onto the forms by AIR staff. The test administrator's notes and checklists were inspected for additional information about the testing conditions to make sure that testing conditions were reasonably uniform.

Data from the teachers, program directors, and Advisory Panel members were handled in much the same fashion. Names were used on outside envelopes only, and ID numbers were placed on the actual forms. Participation was voluntary but efforts were made to persuade nonrespondents to reconsider.

Data management. The data management aspects of the study began with an iterative series of computer-processible charts describing the participating classrooms. As more information on each classroom became available (e.g., sources of funding, inclusion in the Intensive Sample, changes in teachers, numbers of students of each type of language dominance), the charts were updated. The reliance on computer technology for this purpose has several subtle yet powerful advantages: (1) these records would form the nucleus of the classroom level aggregates; (2) because the first four characters of the student and teacher IDs match the classroom level ID on these records, a basis was established for identification of individual records; and (3) subsets of the data (e.g., all second-grade Title VII classrooms in the sample) could be specified in a matter of minutes.

A second critical set of data was one that included every participating student by name together with the ID numbers assigned to each one and the language dominance attributed to each one by the teachers. This set of data was used to generate the labels placed on tests, but it also served to describe the distribution of language dominance (according to teacher reports) throughout the sample at any point in time, changes in language dominance over time, and student attrition. Its primary purpose, however, was to act as a cross-reference file among various student level data sets: once all ID numbers on all forms had been authenticated, the data set could be used to integrate all the data in the Impact Study at the student or classroom level.

Given the basic assumptions that (1) all students in a specified analysis will have the same kinds of data associated with them and (2) the different kinds of data available on students with various types of linguistic dominance will necessitate several distinct analyses, it was pointless to try to agglomerate all the data into a single, unwieldy data set. Therefore, the data base for the Impact Study consisted of separate modules with interlocking identifiers. By nesting data level identifiers within one another (student 24 in classroom 0625 in site 12 yields an ID of 12062524), one could quickly and reliably link together the information that was required for a particular analysis.

The advantage of such a system is especially evident when aggregated data is required. By specifying the aggregate level and then summarizing the information within a given data set, one could create a set of records which could be merged with a companion set of records which summarize another source of data. Thus, teacher data did not necessarily have to be attached to student records: they could be joined together at the classroom level.

D. Privacy and Confidentiality of Data

The completed tests and questionnaires for the Impact Study were never directly identified by name or respondent but rather by anonymous ID numbers. Interim lists of name-ID number cross-references were kept under lock and key by the Director of Data Base Operations at AIR while the data were being processed. Only student test results were released by name, and then only to the superintendent of the district from whom those data were gathered. All machine-processable data records were kept without the respondent names attached in secure storage, with access restricted to senior AIR project personnel. All future uses of the data will be carried out in complete anonymity since the names of the respondents will not be a part of the permanent data base.

IV. THE ANALYSIS STRATEGY FOR THIS REPORT

A. Selection of Meaningful Scores for Analysis

The data collection instruments used in the Impact Study were designed to measure the characteristics of students, parents, teachers, aides, classrooms, schools, and projects that the literature, the Advisory Panel, and AIR project staff suggested were important in Spanish/English bilingual education. As a result of the comprehensiveness of these instruments and the concentrated effort on developing and using effective data collection procedures, the ESEA Title VII Bilingual Impact Study's data base is almost certainly one of the most complex and comprehensive systems of data developed for any large-scale educational program evaluation. Analyzing such a large data base, however, presents a number of problems because of its very magnitude. Although a number of these difficulties are technical in nature (e.g., limited degrees of freedom), the primary problem is that it is extremely difficult to detect and to interpret critically any meaningful trends in complex analyses involving large numbers of individual variables. The usual solution to this problem is to develop for analysis a more manageable number of indices that measure the most important attributes of the educational processes being studied.

Empirically based procedures like factor analysis and cluster analysis are frequently used to create a small number of nonredundant indices accounting for a maximum proportion of the variation in a larger number of individual variables. However, the nature of the indices derived is usually such that it is difficult to understand and to explain exactly what a given index is measuring. These problems, and the fact that the analytic objectives for this report had been clearly specified and operationalized during the study's design phase in terms of specific items of data, suggested that the use of factor score scales was inappropriate. Rather, analysis variables were selected and their item content defined on the basis of rational considerations. The approach used by AIR project staff to identify analysis scales involved a series of questions such as those used in designing the data collection instruments and in specifying the analyses conducted for this report. They were as follows:

- What are the objectives of the Impact Study and of this interim report?
- What are the specific questions that, if addressed in our analyses, would permit meaningful and understandable statements regarding each of the stated objectives?
- What are the specific hypotheses to be tested with regard to each of the questions pertaining to a given objective?
- What are some of the more reasonable alternative explanations for the results that might be obtained?
- How can the specific hypotheses and alternative explanations of results be operationalized in terms of specific variables and in terms of specific descriptive and inferential statistical procedures?
- How are these specific variables measured and what should their content be?

This approach, then, was used to select and define the analysis variables included in this interim report because it was believed that findings based on analyses involving simply defined indices computed directly from logical combinations of items would be maximally interpretable, meaningful, and useful to the education community and to government decision-makers.

Before discussing the variables included in the analyses for this interim report, it should again be emphasized that these indices or scales represent only a portion of the data collected by the Impact Study. Time limitations did not permit in-depth analyses of each instrument. Similarly, it was not feasible to use a large number of variables in the sequence of analyses implemented for this report. Rather, it was necessary to concentrate on those outcomes and variables of interest that were believed to be of prime importance in evaluating the impact of the ESEA Title VII Spanish/English Bilingual Education Program on individual students.

The variables selected were then reviewed by the U.S. Office of Education (USOE). Following approval, these became the key analysis variables described in the remainder of this report.

Although the data collected by the Impact Study came from a variety of sources, it was possible to classify each particular variable analyzed into one of two categories:

- Educational outcomes
- Input, process, and background variables

These two classes of analysis variables are discussed separately in the next two subsections.

Educational Outcomes

Specific outcomes analyzed for this report. One group of variables (also called indices or scales) measured those education-related behaviors that the ESEA Title VII Bilingual Education Program was designed to affect. Such variables are called outcome variables, dependent variables, or criterion variables because they measure desired "outcomes" of teaching and schooling, are said to be at least partially "dependent" upon school practices, and are the "criteria" that the U.S. Office of Education has specified should be used in evaluating the impact of the Title VII Program. In the context of this interim report, four kinds of outcome measures were judged to be appropriate criteria with which to evaluate program impact: a standardized measure of Reading achievement in English, a standardized measure of achievement in Mathematics/arithmetic, a measure of Reading achievement in Spanish, and a measure of the student's attitude toward school. Table IV-A-1 shows the particular outcome measures that were chosen.

Table IV-A-1a in Appendix IV-A contains a more complete listing of the form and level of the Comprehensive Tests of Basic Skills (CTBS) that were taken by students in different language dominance groups and in different grades.

Scoring rules for outcome variables. Scoring rules for the tests in the CTBS generally corresponded with those specified by the test publisher, CTB/McGraw-Hill, in the various manuals for the CTBS, Form S. As explained next, the one exception was the CTBS/S, Level C, Reading Total score for students in grade 2.

TABLE IV-A-1

Criterion Measures Used to Evaluate ESEA Title VII Spanish/English Bilingual Education Program Impact

Content Area	Criterion Measure	Source[a]
English Language Arts Achievement		
English Reading	Reading Total Expanded Standard Score[b]	Comprehensive Tests of Basic Skills (CTBS), 1973 Edition, Forms S or T, Levels C, 1 or 2
English Vocabulary	Reading Vocabulary (Subtest) Expanded Standard Score	CTBS, 1973 Edition, Forms S or T, Levels C, 1 or 2
Mathematics Achievement		
Mathematics Computation	Mathematics Computation (Subtest) Expanded Standard Score	CTBS, 1973 Edition, Form S, Levels C, 1 or 2
School-Related Attitudes		
Attitude Toward School	Attitude Toward School Scale Score	Student Questionnaire
Spanish Language Arts Achievement		
Spanish Reading	Total Raw Score (unbiased)	Prueba de Lectura, Levels 1 or 2

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[a] See Table IV-A-1a in Appendix IV-A for a more detailed summary of the form and level of the CTBS that was used for a given grade and judged language dominance group.

[b] Also called the Reading Total score in this report.

Initial analyses of the Vocabulary and Reading Total scores showed that the number of missing (i.e., blank or invalid) Reading Total scores was substantially larger than the number of missing Vocabulary subtest scores for second-grade students who were judged by their teachers to be Spanish monolingual (see Table IV-A-2). This discrepancy was so large that project staff thought it reasonable to assume that students with limited English-speaking skills may have been instructed not to complete the other Reading subtests in the CTBS/S, Level C, or did not attempt to answer any of the subtest; that is, (1) the Reading Comprehension: Passages test, and (2) the Reading Comprehension: Sentences test. The fact that these students were just learning to read and write English and that the initial stage of language learning usually involves the acquisition of vocabulary probably accounts for the larger number of Vocabulary scores that were present. Test administrators quite possibly judged that Spanish monolingual students could handle some English vocabulary but that the Passages and the Sentences tests required skills not yet developed in these particular students.

TABLE IV-A-2

Numbers of Spanish Monolingual Students With
Pretest and Posttest Reading Total and Vocabulary Scores
(Title VII and Non-Title VII Students Combined)

Grade	Numbers of Spanish Monolingual Students with Pretest and Posttest Scores	
	Reading Total Score	Vocabulary Score
2	202	304
3	215	248
4	167	178
5	147	154
6	75	77

The small number of Reading Total scores relative to Vocabulary scores in the grade 2 sample, then, probably was due, at least in part, to CTB/McGraw-Hill's scoring rule of computing a skills area total score (like the Reading Total score) only if all the skills area subtests had been taken. Therefore, to reduce the amount of missing data due to the particular scoring rule and to provide a meaningful Reading Total score, a decision was made to compute a Reading Total score for grade 2 students on the basis of the number of items that the student had answered correctly, even if one or two of the Reading subtests had not been taken. The assumptions underlying this procedure seemed reasonable since (1) all Reading subtests were administered during the same testing session and should have been taken, and (2) most of the students missing CTBS Reading subtests were those judged to be Spanish monolingual (see Appendix IV-A, Table IV-A-2a).

Types of test scores analyzed. Examination of Table IV-A-1 shows that two kinds of test score variables were analyzed--total raw scores in the case of the Prueba de Lectura (debiased) and Expanded Standard Scores for the Comprehensive Tests of Basic Skills. CTBS Expanded Standard Scores (sometimes called Expanded Scale Scores) should not be confused with what are usually called standard scores; that is, scores that have been transformed to have a specific mean and standard deviation. Rather, the CTBS Expanded Standard Score Scale was developed by the test publisher, CTB/McGraw-Hill, to be an "equal interval scale that measures score values in terms of the school achievement dimension to which it is referenced" (CTB/McGraw-Hill, 1974b, p. 10). Development of these score scales was based on Thurstone's absolute scaling procedure (Gulliksen, 1950, pp. 284-286) and involved normalizing overlapping distributions of standardization data on the same baseline. According to CTB/McGraw-Hill, they are produced from "a single, equal interval scale of scores across all grades for use with all levels of CTBS" (1976, p. 39) and "can be used in longitudinal studies of grades or individual students from kindergarten through high school because they are independent of form[1], level, time of year of testing and restandardization" (1976, p. 39).

The total raw scores developed from the Prueba de Lectura were simply the number of items answered correctly. As noted previously in Chapter II, the only Prueba items included in these computations were those that were judged to be lexically appropriate (i.e., unbiased) with respect to various Hispanic subgroups.

Input, Process, and Background Variables

Analysis variables selected. The other group of variables obtained by the Impact Study measured some of the characteristics of the student, his/her home background, and his/her educational environment that are thought to influence such education-related behaviors as Reading and Mathematics achievement and attitudes. These variables are called input, process, independent, or predictor variables because they are usually thought of as antecedents (or at least concomitants) of the outcomes of schooling. Scales included in the analyses conducted for this report are shown in Tables IV-A-3 through IV-A-5 according to the particular data collection instrument from which each variable was derived.

Scoring of scale items. As discussed previously, the item content of each multi-item scale was defined on *a priori* grounds. The use of rationally defined scales seemed most appropriate since the objective of this interim report of the Impact Study was to test the overall hypotheses about general Title VII program impact. Items were placed in scales because it was believed they measured the same underlying construct or characteristic. Item scoring, also based on rational considerations, involved (1) rank-ordering each item's alternative response categories in terms of the construct being assessed and (2) specifying integer scores for individual item alternative responses so that a higher score would indicate that the response alternative involved *more* of the underlying construct. Response alternatives for all items in a given multi-item scale were usually scored so that they had the same range and mid-point.

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[1] The Impact Study used both Forms S and T of the CTBS, 1973 edition. Form T of the CTBS was "designed to provide an alternative form for CTBS/S that is statistically comparable as well as parallel in content and format" (CTB/McGraw-Hill, 1975, p. 2).

TABLE IV-A-3

Student Questionnaire Analysis Variables

(page 1 of 3)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Ethnic Group Membership	1	1 - 6	Student's ethnicity 1. Hispanic 2. White non-Hispanic 3. American Indian 4. Asian 5. Black 6. Other	2[a,b]
Judged Language Dominance	NA	1 - 4	(Based on the combination of test/ questionnaire instruments taken) 1. English monolingual 2. English-dominant bilingual 3. Spanish-dominant bilingual 4. Spanish monolingual	NA[c]
Basis for Presence in Bilingual Project Class	1	1 - 5	Basis for student's admission to bilingual project 1. Spanish surname 2. Need for English instruction 3. Parent request 4. Bilingualism 5. Other	15[a,b]
Sex	1	1 - 2	Student's sex 1. Boy 2. Girl	Cover[d]
First School Year in Continental U.S.	1	1 - 2	Is this the student's first year of school in the continental U.S.? 1. No 2. Yes	1[e]

(continued)

TABLE IV-A-3 (cont.)

Student Questionnaire Analysis Variables (page 2 of 3)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Continuous Variables				
Socioeconomic Status	4	2 - 12	Mother's education (fall 1975/spring 1976)[f]	5[a]
			Father's occupation (fall 1975/spring 1976)[f]	6[a]
			Father's education (fall 1975/spring 1976)[f]	7[a]
			Mother's occupation (fall 1975/spring 1976)[f]	8[a]
Years in Bilingual Education Classes	1	1 - 6	Student's years in bilingual education classes	14[a,b]
Student's Age	1	5 - 10	Student's age	1[a,b]
Number of School Days Absent	1	1+	Total days absent to date	2[e,g]
Attitude Toward School[h]	5	2 - 8	Attitude toward school	14[d]
			Student's feelings in classroom	(Faces - 8)[d]
			Student's feelings on playground	(Faces - 9)[d]
			Student's feelings studying in a group in classroom	(Faces - 21)[d]
			Student's feelings studying alone in classroom	(Faces - 22)[d]

[a] This information was provided by each student's teacher on the teacher-completed Student Questionnaire.

[b] The response from the fall 1975 instrument was used; if it was blank, the response from the spring 1976 instrument was used.

[c] Language dominance was based on the particular testing packet judged most appropriate for the student by his/her teacher.

(continued)

TABLE IV-A-3 (cont.)

Student Questionnaire Analysis Variables (page 3 of 3)

[d] This information was provided by each student on the student-completed Student Questionnaire.

[e] This information was provided by each student's teacher on the Student Attendance Form.

[f] In creating the Socioeconomic Status (SES) scale, it was assumed that an average of the fall and spring responses to a scale item (after item rescoring) provided the best single estimate of what the item was assessing. The four resulting averages were then averaged in the usual manner to create the SES scale score.

[g] School days absent was computed only for students who were present during fall 1975 and spring 1976.

[h] Attitude Toward School was analyzed as an outcome variable. (See Table IV-A-1.)

TABLE IV-A-4

Teacher/Teacher Aide Questionnaire Analysis Variables (page 1 of 4)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Status of Teacher	1	1 - 2	Teacher or teacher aide 1. Teacher 2. Teacher aide	Cover
Highest College Degree	1	1 - 5	Highest college degree 1. No degree 2. Degree/diploma in less than four years 3. BA/BS 4. Teaching credential 5. MA or higher	6[a]
Type of State Teaching Credential	1	1 - 4	Type of state teaching credential 1. Non-credentialed 2. Temporary/provisional 3. Regular 4. Bilingual-bicultural	7[a]
Years of Full-Time Teaching	1	1 - 9	Years of full-time teaching 1. Less than 1 year 2. 1 year 3. 2 years 4. 3 years 5. 4 years 6. 5-9 years 7. 10-19 years 8. 20-29 years 9. 30 or more years	8[a]

(continued)

TABLE IV-A-4 (cont.)

Teacher/Teacher Aide Questionnaire Analysis Variables (page 2 of 4)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Years of Teaching in a Bilingual Program	1	1 - 7	Years of teaching in a bilingual program 1. Less than 1 year 2. 1 year 3. 2 years 4. 3 years 5. 4 years 6. 5 years 7. More than 5 years	31[b]
College Training in Bilingual Education	1	1 - 5	College training in bilingual education 1. 1-5 quarter units (1-3 semester hours) 2. 6-15 quarter units (4-10 semester hours) 3. 16-30 quarter units (11-20 semester hours) 4. More than 30 quarter units (20 semester hours) 5. No college training in bilingual education	32[b]
Bilingual Education Conference Attendance	1	1 - 5	Bilingual education conference attendance in last five years 1. 1 day or less 2. 2-15 days 3. 15-30 days 4. More than 30 days 5. No attendance	34[b]
Language Used in Home	1	1 - 5	Language used most in home 1. Only Spanish 2. Spanish more than English 3. Spanish and English equally 4. English more than Spanish 5. Only English	1

TABLE IV-A-4 (cont.)

Teacher/Teacher Aide Questionnaire Analysis Variables (page 3 of 4)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Language Used with Bilingual Friends	1	1 - 5	Language used with bilingual friends 1. Only Spanish 2. Spanish more than English 3. Spanish and English equally 4. English more than Spanish 5. Only English	4
Language Used with Bilingual Students	1	1 - 5	Language used with bilingual students 1. Only Spanish 2. Spanish more than English 3. Spanish and English equally 4. English more than Spanish 5. Only English	5
Judged Language Proficiency as Adult	1	1 - 4	Judged language proficiency when an adult 1. Spanish 2. Both Spanish and English 3. English 4. Other	19
Judged Language Proficiency as Teenager	1	1 - 4	Judged language proficiency when a teenager 1. Spanish 2. Both Spanish and English 3. English 4. Other	18

(continued)

TABLE IV-A-4 (cont.)

Teacher/Teacher Aide Questionnaire Analysis Variables (page 4 of 4)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Judged Language Proficiency as Child	1	1 - 4	Judged language proficiency when a child 1. Spanish 2. Both Spanish and English 3. English 4. Other	17
Continuous Variables				
Overall Teacher Qualifications	3	1 - 4	Highest college degree	6[c]
			Type of state teaching credential	7[c]
			Years of full-time teaching	8[c]
Bilingual Teacher Qualifications	4	1 - 5	Years of teaching in bilingual program	31[c]
			College training in bilingual education	32[c]
			Inservice training in bilingual education	33
			Bilingual education conference attendance	34[c]

[a] This item, after its response alternatives were rescored, was used to create the multi-item scale, Overall Teacher Qualifications.

[b] This item, after its response alternatives were rescored, was used to create the multi-item scale, Bilingual Teacher Qualifications.

[c] Also analyzed as separate items.

TABLE IV-A-5

Project Level Educational Experience Analysis Guide (EdExAG) Analysis Variables[a] (page 1 of 3)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Number of Project Directors	1	1 - 4	Number of project directors that the Title VII project has had 1. 1 director 2. 2 directors 3. 3 directors 4. 4 or more directors	5
Number of Project Support Personnel	1	1 - 6	Number of project support personnel 1. 1 to 5 2. 6 to 10 3. 11 to 15 4. 16 to 20 5. 21 to 25 6. 26 to 30	page 2
Judged Language Proficiency of Project Support Personnel	1	1 - 3	Language proficiency of support personnel 1. Spanish monolingual 2. Spanish/English bilingual 3. English monolingual	page 2
Ethnicity of Project Support Personnel	1	1 - 6	Ethnic group membership of project support personnel 1. Hispanic 2. White non-Hispanic 3. American Indian 4. Asian 5. Black 6. Other	page 2

(continued)

TABLE IV-A-5 (cont.)

Project Level Educational Experience Analysis Guide (EdExAG) Analysis Variables[a] (page 2 of 3)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Project Director's Perception of School Board's Attitude	1	1 - 5	School board's attitude toward the Title VII project 1. Very positive 2. Moderately positive 3. Indifferent 4. Moderately negative 5. Very negative	14
Type of Bilingual Project	1	1 - 4	After the Spanish-dominant student is able to function in school in English, what happens to the student? 1. The student remains in the bilingual project. 2. The student is transferred to a regular (English-speaking only) classroom with some Spanish language follow-up. 3. The student is transferred to a regular (English-speaking only) classroom with no Spanish follow-up. 4. Other	7
Method of Achievement Testing	1	1 - 3	Nature of ongoing assessment of student achievement 1. Assessment of Language Arts, and Mathematics achievement in English only 2. Assessment of English Language Arts, Spanish Language Arts, and Mathematics achievement 3. Assessment of Language Arts and Mathematics achievement in student's dominant language	page 6

TABLE IV-A-5 (cont.)

Project Level Educational Experience Analysis Guide (EdExAG) Analysis Variables[a] (page 3 of 3)

Analysis Variable	Number of Items	Possible Range of Values	Scale Items (and Response Alternatives for Categorical Variables)	Item Number
Categorical Variables				
Method of Attitude Assessment	1	1 - 2	Method of attitude assessment 1. Observation 2. Student questionnaire	page 6
Continuous Variables				
Number of Project Classrooms	1	1+	Total number of classes in this project	2
Number of Project Students	1	1+	Total number of students in this project	4

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[a] The project level EdExAG was used only to describe Title VII projects.

It was assumed that the integer scores specified for each response alternative transformed the item responses onto an interval scale. A total score for each multi-item scale was then computed by averaging all of the non-blank items in the scale. Items were averaged, rather than summed, so that it would be possible to compute a scale score for even those students for whom some but not all the items in a scale had been answered.

B. Psychometric Characteristics of the Analysis Variables

Internal Consistency Reliability

Prior to their use in analyses of program impact it was desirable to ascertain if the measures selected for use were reasonably reliable measures of the achievement, attitudes, and characteristics of the students and teachers participating in this particular study. Although time constraints for this interim report did not permit exhaustive analyses of the scales or of the individual items from which scale scores were computed, it was feasible to estimate the reliability of the multi-item scales by (1) computing a measure of internal consistency reliability such as a Kuder-Richardson Formula 20 (for the Prueba de Lectura total score) or Cronbach's (1951) coefficient alpha (in the case of the questionnaire scales), and/or (2) adjusting known or published reliability coefficients on the basis of known differences in variances between the standardization sample and the sample of students present in the Impact Study.

CTBS Expanded Standard Scores. The reliability of each CTBS Expanded Standard Score scale was estimated by adjusting the appropriate published coefficient (CTB/McGraw-Hill, 1974b) by means of the following formula:

$$r_{yy'} = 1 - \left[\frac{s_Y^{2}}{s_y^{2}} (1 - r_{YY'}) \right] \qquad \text{(IV-1)}$$

where

$r_{yy'}$ = adjusted reliability coefficient for score Y in a given Impact Study analysis sample,

$r_{YY'}$ = published reliability coefficient for score Y,

s_y^2 = variance of score Y in a given Impact Study sample, and

s_Y^2 = variance of score Y in the standardization sample used in the computation of the published reliability coefficient.

This adjustment procedure assumes that variance differences between the standardization sample and the Bilingual Impact Study sample are due solely to differences in true score variance (Gulliksen, 1950, pp. 110-114). Because of the care taken by the test publisher to eliminate as much sociocultural bias as possible from the CTBS tests, this assumption seemed reasonably appropriate. (Lack of bias in the CTBS is discussed in greater detail in a later portion of this chapter, Notes on the Cultural Fairness of the CTBS.)

So that it eventually would be possible to evaluate the possible effects of unreliability in the context of the impact analyses described later in this report, it was desirable to compute adjusted reliability coefficients based upon the variances of the actual samples analyzed. As noted in Chapter VI, separate impact analyses were implemented for different grades and for different ethnic groups within grades. Ethnic group membership was defined in terms of four categories: Hispanic, white non-Hispanic, black, and other. This last category (i.e., "other") included all American Indian and Asian students as well as those students for whom information on ethnic group membership was not available[1].

Tables IV-B-1a, IV-B-2a, and IV-B-3a in Appendix IV-B contain the published (CTB/McGraw-Hill, 1974b) Kuder-Richardson Formula 20 (KR20) reliabilities and variances for the CTBS, Form S, standardization samples, the variances of the Impact Study analysis samples (posttest scores), and the adjusted reliability coefficients for the three CTBS score scales analyzed for this report--Reading Vocabulary, Reading Total, and Mathematics Computation.

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[1] The "other" group referred to here and in the impact analyses should not be confused with the "other" response alternative that was part of the item on the Student Questionnaire that inquired about more specific ethnic group membership.

It should be noted, however, that in grades 3 through 6 the reliability coefficients that were computed are only approximations of the desired adjusted reliabilities. The reasons are as follows. First, the only published technical information that was available on the CTBS at the time this report was prepared was that pertaining to the CTBS, Form S, for testing conducted during mid-April of the school year (month 7). The tests administered by the Impact Study during the spring (i.e., the posttests) included both Forms S and T (see Appendix IV-A, Table IV-A-1a). Thus, in some cases, the published reliabilities and variances shown in Appendix IV-B, Tables IV-B-1a, IV-B-2a, and IV-B-3a are estimates based upon a parallel form of the CTBS [1]. Second, the scores included in a given analysis sample may have included CTBS Expanded Scale Scores derived from different forms and levels of the tests. This was necessary because Spanish monolingual students at all grade levels were given the CTBS/S Level C Reading Test at both pretest and posttest time, while all other students were given Form S Reading at pretest and Form T Reading at posttest. (No Form T version of the CTBS Level C was available.) Thus, it is recommended that the adjusted reliabilities shown in Tables IV-B-1a, IV-B-2a, and IV-B-3a in Appendix IV-B be viewed as rough approximations only. For this reason, their use in any corrections for attenuation should not be considered.

Examination of the adjusted KR20 reliability coefficients shows that most coefficients are in the high .80s or low .90s. Assuming that errors of measurement were indeed similar in the standardization and Impact Study analysis samples and that the coefficients reported by the test publisher are appropriate reliability estimates, it seems reasonable to conclude that the CTBS outcome variables analyzed for this report were acceptable in terms of their internal consistency reliabilities.

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[1] Examination of a prepublication copy of the data tables for the CTBS, Expanded Edition, Technical Bulletin No. 2 showed that the standardization sample statistics for the CTBS/S were quite similar to those for the CTBS/T.

Prueba de Lectura total raw scores. The reliability of the Prueba de Lectura total raw score--equal to the number of lexically unbiased items answered correctly--was estimated by computing a Kuder-Richardson Formula 20 reliability coefficient from the data provided by Hispanic Title VII students who had both pretest and posttest scores. Coefficients were computed only for these students because (1) the analyses of pretest-to-posttest growth in Spanish Reading achievement as described in the next chapter was based on only those students who had both Prueba de Lectura pretest *and* posttest scores, (2) the Prueba de Lectura was taken only by students who were Spanish monolingual, Spanish-dominant bilingual, or English-dominant bilingual, and most of these students were members of Title VII projects, and (3) most Title VII students were Hispanic. The results of these computations, as shown in Table IV-B-1, suggest that the Prueba de Lectura Level 1 total raw score is reasonably although not highly reliable in grades 2, 3, and 4. Reliabilities for the Level 2 (especially the fall 1975 scores), however, were quite low, probably because of the difficulty level of the test[1]. This, at least, is suggested by the fall 1975 and spring 1976 means and variances. Inspection of the item statistics also showed that the proportion of correct responses to almost every item on the Level 2 in fall 1975 was very low.

Impact Study questionnaire scales. The reliability of each multi-item Student Questionnaire scale and Teacher/Teacher Aide Questionnaire scale was estimated by means of a modified version of Cronbach's (1951) coefficient alpha. The formula used was

$$\alpha' = \frac{n}{n-1}\left[1 - \frac{\sum_{i=1}^{n} V_i}{n^2 V_m}\right], \qquad \text{(IV-2)}$$

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[1] Additional analyses of the psychometric properties of both Levels 1 and 2 of the Prueba de Lectura will be presented in a later report.

TABLE IV-B-1

Kuder-Richardson Formula 20 Reliability Coefficients ($r_{xx'}$)
for the Prueba de Lectura Total Raw Score

Grade	Level	Number of Unbiased Items	Prueba de Lectura Total Score - Fall 1975				Prueba de Lectura Total Score - Spring 1976			
			Mean	Variance	N	$r_{xx'}$	Mean	Variance	N	$r_{xx'}$
2	1	63	20.4	82.3	357	.78	26.4	128.7	357	.70
3	1	63	27.2	125.6	477	.80	32.7	152.3	477	.80
4	1	63	34.8	163.6	412	.80	40.1	158.3	412	.76
5	2	81	17.1	21.7	325	.21	19.0	32.3	325	.42
6	2	81	17.7	18.4	273	.05	19.4	49.5	273	.62

where

α' = modified coefficient alpha,

n = number of items in the scale,

V_i = variance of the i^{th} item in the scale, and

V_m = variance of the mean of the individual items (i.e., the scale score).

This formula differs from the standard formula for coefficient alpha because of the presence of the n^2 term. In essence, the coefficient yielded by formula IV-2 is merely a coefficient alpha for a scale score formed by averaging, rather than summing, a set of item scores[1].

Coefficients for the student Socioeconomic Status (SES) scale were computed separately for each grade from the data provided by all students in a grade for whom at least one SES item was present (i.e., nonblank). Similar computations were performed for the Attitude Toward School scale. Results have been placed in Tables IV-B-2, IV-B-3, and IV-B-4.

Modified coefficient alpha reliabilities for students included in the impact analyses (i.e., those who were present during both fall 1975 and spring 1976) were estimated by adjusting the overall coefficients shown in Tables IV-B-2, IV-B-3, and IV-B-4 by means of the formula,

$$\alpha'' = 1 - \left[\frac{s_Y^2}{s_y^2} (1 - \alpha') \right] , \qquad \text{(IV-3)}$$

where

α'' = adjusted coefficient alpha (modified) reliability for a given Impact Study analysis sample,

s_Y^2 = variance of the Student Questionnaire scale based on all students within a grade,

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[1] The presence of the n^2 term in formula IV-2, in effect, weights the variance of the scale score (an average) by the number of items supposedly averaged. When missing item scores are present, however, the n^2 term in effect weights the variance of the scale score (computed as a mean across all nonblank items) as if all respondents had answered each item in the scale. Assuming that the item variances and covariances based on incomplete item data are accurate estimates of item variances and covariances for complete data, α' will continue to be a modified coefficient alpha, even when missing item responses do occur.

TABLE IV-B-2

Adjusted Coefficient Alpha (Modified) Reliability Coefficients by Grade and Analysis Sample--Socioeconomic Status (SES) Scale

Analysis Sample/ Ethnic Group	Grade	All Students with SES Data[a]				Students Present in Analysis Samples[b]			
		N	Mean	s_Y^2	α'	N	Mean	s_y^2	α"
Hispanic	2	1504	4.87	5.86	.94	1134	4.58	5.06	.93
	3	2112	4.98	5.52	.91	1551	4.90	5.12	.90
	4	1961	4.77	4.80	.90	1576	4.69	4.31	.89
	5	1180	5.06	5.71	.91	981	4.95	4.53	.89
	6	690	4.97	5.48	.94	476	5.05	5.16	.94
White Non-Hispanic	2	1504	4.87	5.86	.94	171	6.97	4.45	.92
	3	2112	4.98	5.52	.91	257	6.24	5.44	.91
	4	1961	4.77	4.80	.90	250	6.17	4.76	.90
	5	1180	5.06	5.71	.91	133	6.95	6.25	.92
	6	690	4.97	5.48	.94	113	7.00	6.16	.95
Black	2	1504	4.87	5.86	.94	124	5.70	4.90	.93
	3	2112	4.98	5.52	.91	150	5.85	5.12	.90
	4	1961	4.77	4.80	.90	156	5.40	5.52	.91
	5	1180	5.06	5.71	.91	93	5.76	3.66	.86
	6	690	4.97	5.48	.94	51	5.95	8.21	.96
Other	2	1504	4.87	5.86	.94	123	6.00	6.37	.94
	3	2112	4.98	5.52	.91	161	5.69	8.67	.94
	4	1961	4.77	4.80	.90	98	5.12	4.33	.89
	5	1180	5.06	5.71	.91	116	4.81	4.40	.88
	6	690	4.97	5.48	.94	57	5.76	7.18	.95

[a] All students (by grade level) for whom SES information was available--prior to missing data replacement.

[b] All student (by grade level and ethnic group) present in fall 1975 and spring 1976--after missing data replacement.

TABLE IV-B-3

Adjusted Coefficient Alpha (Modified) Reliability Coefficients by Grade and Analysis Sample--Attitude Toward School Scale, Fall 1975

Analysis Sample/ Ethnic Group	Grade	All Students with Attitude Data[a]				Students Present in Analysis Samples			
		N	Mean	$\bar{s}_Y^2$	α'	N	Mean	s_y^2	α''
Hispanic	2	1939	6.45	1.53	.42	1010	6.43	1.56	.43
	3	2474	6.35	1.44	.40	1429	6.34	1.54	.44
	4	2461	6.47	1.25	.40	1453	6.51	1.23	.39
	5	1471	6.38	1.19	.36	882	6.41	1.13	.33
	6	877	6.27	1.25	.46	414	6.31	1.22	.45
White Non-Hispanic	2	1939	6.45	1.53	.42	149	6.36	1.13	.21
	3	2474	6.35	1.44	.40	222	6.32	1.16	.26
	4	2461	6.47	1.25	.40	224	6.36	1.36	.45
	5	1471	6.38	1.19	.36	108	6.20	1.24	.39
	6	877	6.27	1.25	.46	103	6.09	1.18	.43
Black	2	1939	6.45	1.53	.42	101	6.42	1.46	.32
	3	2474	6.35	1.44	.40	137	6.34	1.34	.36
	4	2461	6.47	1.25	.40	143	6.52	1.35	.44
	5	1471	6.38	1.19	.36	84	6.55	0.94	.19
	6	877	6.27	1.25	.46	46	6.58	1.24	.66
Other	2	1939	6.45	1.53	.42	102	6.78	1.82	.51
	3	2474	6.35	1.44	.40	146	6.43	1.37	.37
	4	2461	6.47	1.25	.40	94	6.43	1.36	.45
	5	1471	6.38	1.19	.36	105	6.39	1.13	.33
	6	877	6.27	1.25	.46	51	6.50	1.05	.36

[a] All students (by grade level) for whom Attitude Toward School information was available from fall 1975.

TABLE IV-B-4

Adjusted Coefficient Alpha (Modified) Reliability Coefficients by Grade and Analysis Sample--Attitude Toward School Scale, Spring 1976

Analysis Sample/ Ethnic Group	Grade	All Students with Attitude Data[a]				Students Present in Analysis Samples			
		N	Mean	s_Y^2	α'	N	Mean	s_y^2	α''
Hispanic	2	1703	6.39	1.36	.36	1010	6.39	1.38	.37
	3	2322	6.43	1.21	.36	1429	6.42	1.25	.38
	4	2232	6.45	1.14	.38	1453	6.52	1.12	.37
	5	1471	6.43	1.01	.33	882	6.39	1.03	.34
	6	823	6.36	1.09	.41	414	6.38	1.11	.42
White Non-Hispanic	2	1703	6.39	1.36	.36	149	6.39	1.20	.27
	3	2322	6.43	1.21	.36	222	6.36	0.95	.18
	4	2232	6.45	1.14	.38	224	6.28	1.11	.36
	5	1471	6.43	1.01	.33	108	6.44	0.82	.17
	6	823	6.36	1.09	.41	103	6.08	1.32	.51
Black	2	1703	6.39	1.36	.36	101	6.07	1.31	.34
	3	2322	6.43	1.21	.36	137	6.38	1.28	.40
	4	2232	6.45	1.14	.38	143	6.35	1.10	.36
	5	1471	6.43	1.01	.33	84	6.64	0.87	.22
	6	823	6.36	1.09	.41	46	6.43	1.00	.37
Other	2	1703	6.39	1.36	.36	102	6.66	1.29	.33
	3	2322	6.43	1.21	.36	146	6.49	1.23	.19
	4	2232	6.45	1.14	.38	94	6.57	1.09	.35
	5	1471	6.43	1.01	.33	105	6.64	0.87	.22
	6	823	6.36	1.09	.41	51	6.62	0.65	.01

[a] All students (by grade level) for whom Attitude Toward School information was available from spring 1976.

s_y^2 = variance of the Student Questionnaire scale for all students in a given Impact Study analysis sample for a given grade, and

α' = coefficient alpha (modified) based on all students within a grade.

As was the case for formula IV-1, this adjustment assumes that any variance difference between the sample composed of all students in a grade and the subsample of students included in the impact analyses is due solely to a difference in true score variance (Gulliksen, 1950). Tables IV-B-2, IV-B-3, and IV-B-4 also contain these adjusted reliabilities for the Socioeconomic Status and Attitude Toward School scales.

Examination of the reliability estimates for student Socioeconomic Status (Table IV-B-2) shows that the coefficients ranged between the middle .80s to the middle .90s in the analysis samples. These findings suggest that the SES scale was highly reliable. It should be noted that there was a great deal of missing data with respect to the individual items comprising the SES scale. However, correlations between individual items (each item a fall/spring composite--see Table IV-A-3) based on the scores that were present for students across all grade levels were always moderate to high (.56 to .76). Also, as indicated in the footnotes to Table IV-B-2, the SES scores in each analysis sample were those that were present following a procedure that replaced missing SES data, whereas the values for "all students" were based on the SES scores available prior to any missing data replacement. The missing data replacement procedure used and its possible impact on these reliability estimates is discussed more fully in the next section of this chapter.

Table IV-B-5 shows that the two multi-item teacher scales developed for the analyses described in this report had reliabilities of .81 and .70.

TABLE IV-B-5

Coefficient Alpha (Modified) Reliability Coefficients
for Two Teacher/Teacher Aide Questionnaire Scales

Scale	Number of Teachers	Mean	Variance	α'
Overall Teacher Qualifications	490	2.50	0.78	.81
Bilingual Teacher Qualifications	406	2.63	0.91	.70

Missing Data Replacement: Socioeconomic Status Scale

As indicated in one of the footnotes to Table IV-B-2 presented earlier, the analysis sample means and variances reported in the reliability analyses of the student Socioeconomic Status (SES) scale were the values computed after missing data replacement. The rationale for and procedure by which this was done is described in this section.

Although it was possible to minimize the number of missing SES scores by computing the SES scale score as an average of the nonblank item responses, about one-fourth to one-third of the students participating in the Impact Study had missing data on all four items in the scale (see Tables IV-B-4a through IV-B-8a in Appendix IV-B). Since student SES was to be one of the two covariates in the impact analyses described in Chapter VI, project staff felt that it was necessary to further minimize the amount of missing SES information so that the number of students in the analyses of program impact could be maximized. The fact that the students present in public schools usually tend to be fairly homogeneous with respect to Socioeconomic Status suggested that the following sequence of missing data replacement rules would be reasonably meaningful and accurate:

- If an individual student's SES scale score is blank, replace it with the average SES scale score for his/her classroom.
- If the student's classroom SES mean is blank, replace the student's blank score with his/her school mean.
- If the student's school SES mean is also blank, replace the student's blank score with the mean SES for all Title VII students in that site.

As indicated in Appendix IV-B, Tables IV-B-4a through IV-B-8a, most missing SES scores were replaced with classroom means.

Because of time constraints, it was not possible to analyze the effects that this method of missing data replacement may have had on the reliability estimation procedures. However, it can be shown that replacing missing data with means does reduce the variance in an overall distribution of scores, when the different means used are fairly similar to each other (technically, when the between-groups variance is less than the within-groups variance). Since the population of students participating in projects sponsored by Title VII is somewhat homogeneous with respect to Socioeconomic Status, this would lead to the speculation that the missing data procedure would have reduced the variance in the SES scores analyzed and that the adjusted reliability coefficients would have been lowered. The fact that the adjusted reliabilities for SES in all analysis samples were high and very similar to the unadjusted coefficients suggested that any variance reduction due to missing data replacement had no large effects on these coefficients.

Lastly, it should be noted that the SES scale score was the only analysis variable discussed in this report for which missing data were replaced.

Notes on the Cultural Fairness of the CTBS

Test bias. One of the reasons that the Comprehensive Tests of Basic Skills, 1973 Edition, was chosen for use in the Impact Study was that the content of all tests in the series had been thoroughly reviewed in terms of possible sociocultural bias[1]. "Prior to standardization, all tests were reviewed by both black and Spanish-speaking reviewers. They included teachers, content and curriculum experts, and specialists in the education of minority students. Deletions and revisions of items were made to eliminate any bias against these minority groups detected by the reviewers" (CTB/McGraw Hill, 1974b). Thus, according to the developer and publisher of the test, the CTBS was designed to be socioculturally unbiased.

Recent work undertaken in the context of a national evaluation of the sustaining effects of ESEA Title I has suggested that, on empirical grounds, the CTBS appears to be relatively free of sociocultural bias. For example, of the 887 items contained in the CTBS/S Levels A through 4, only eight items were found to be both statistically and culturally biased with respect to black, brown, or other students (Hoepfner and Christen, 1976). Only three biased items were found in the tests used by the Impact Study:

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[1] As used here, sociocultural bias is the dependence of a test score on the specific social and cultural experiences of a particular subpopulation of students.

- CTBS/S, Level C. One of eighteen items in the Reading Comprehension: Passages subtest
- CTBS/S, Level 1. Two items, one of forty items in the Reading Vocabulary Test and one of forty-five items in the Reading Comprehension Test
- CTBS/S, Level 2. None of the ninety-eight items were biased.

No biased items were found in the CTBS/S Mathematics tests.

Test speededness. Another issue regarding the use of the Comprehensive Tests of Basic Skills by the Impact Study was whether or not it is a speeded test, or at least more speeded for the kinds of students enrolled in Title VII projects than for the students in the standardization sample. Two lines of evidence suggest that the CTBS, administered in the standard manner, is not a speeded test. First, a special study conducted as part of a large-scale national evaluation of the sustaining effects of the ESEA Title I program found no evidence of speededness. "Without exception, and at all sites, the observers report no speededness at all in any of the levels of the test. The observers reported that many students failed to complete the test but at the point that time was called, they had themselves long since stopped working and had begun gazing at things or interacting with other students" (Hoepfner and Christen: 1976, 1-74, 1-75). It was thought that "the disinterest and initiation of other activities was caused by the students' evaluation of the items as being too difficult or the testing session as being too boring to continue" (Hoepfner and Christen: 1976, 1-75).

Similarly, no compelling evidence for the speededness of the CTBS was present in the comments recorded by the test administrators in the Impact Study. Although test speededness was not examined in great detail, these results at least suggest that the CTBS given with the time limits recommended by the test publisher cannot be considered an unreasonably speeded test for the populations of students present in either Title I or Title VII projects.

In general, then, it appears reasonable to conclude that the CTBS/S, and probably its alternate form (CTBS/T), is not highly or even moderately biased against students of any particular ethnic group and that its use in the context of the Impact Study was appropriate.

C. Specific Analyses to be Performed

Introduction

The Impact Study's objectives, evaluation design, data collection instruments, and data collection methodology, as well as the analysis variables selected for examination in this interim report, have been thoroughly described in previous sections and chapters. Remaining to be discussed are (1) the particular questions addressed in this first report of the Impact Study and (2) the analyses that were implemented to answer these questions. The next three sections of this chapter summarize the descriptive and inferential methods used to obtain answers to three major groups of topics that AIR and the U.S. Office of Education agreed should be addressed for this report:

- Characteristics, costs, staff, and participants of ESEA Title VII-supported projects
- Overall impact of the ESEA Title VII Spanish/English Bilingual Education Program on the achievement and attitudes of participating students
- Characteristics and costs of unusually effective and unusually ineffective classrooms

Results are reported in the next three chapters, Chapters V, VI, and VII, according to the particular topic addressed. Chapter VIII, the last chapter in this interim report, reviews and integrates the major findings obtained.

Analysis Procedures: Characteristics of Students, Teachers, and Projects Participating in the ESEA Title VII Spanish/English Bilingual Education Program

The first series of analyses implemented by the Impact Study was designed to summarize the characteristics of the program and its participants as a whole. The following major questions and analytic procedures were involved.

- What kinds of students are being served by the program? To answer this question, frequency distributions of student background characteristics (see Table IV-A-3) were prepared. Of special interest was such information as students' ethnicity, judged language dominance, and basis for inclusion in a Title VII bilingual project classroom.

Separate distributions were produced for different grade levels, each being based upon all students who were members of Title VII-sponsored projects in fall 1975 and/or spring 1976. Since the Impact Study's sample was chosen to constitute a representative sample of the classrooms present in all projects in their fourth or fifth year of funding during the 1975-76 school year, these descriptive statistics were considered to be fairly reasonable estimates[1] of the characteristics of all students who were enrolled in ESEA Title VII-supported projects (in their fourth or fifth year of funding) sometime during the 1975-76 school year.

Characteristics of non-Title VII comparison students were not summarized in these analyses because simple descriptive analyses of the student composition of the Title VII program were meaningful by themselves and, therefore, did not need a comparison group to be interpreted. Similarity of Title VII and non-Title VII students, however, was extremely important in the analyses examining fall-to-spring changes in achievement and attitudes because lack of similarity could account for differences in achievement and attitude change. Thus, characteristics of the Title VII and non-Title VII samples involved were examined in depth in the comparative analyses of program impact reported in Chapter VI.

- What is the level of experience of Title VII teachers and their aides? Frequency distributions were prepared for all of the Teacher/Teacher Aide Questionnaire analysis variables -

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[1] The accuracy of these estimates could have been improved somewhat by weighting the data on the basis of the sampling ratios used in selecting classrooms. However, project staff judged that the increase in accuracy would probably not have been sufficient to offset the additional costs and time involved in implementing such a procedure at this time.

listed previously in Table IV-A-4. Means and standard deviations were computed for the two continuous analysis variables created from items on this instrument, Overall Teacher Qualifications and Bilingual Teacher Qualifications. Separate computations were performed for Title VII teachers and aides and for non-Title VII teachers and aides. Attributes of non-Title VII teachers and aides were included in the discussion of Title VII teacher and aide characteristics because overall Title VII/non-Title VII differences in staff characteristics were believed to represent treatment differences possibly attributable to the use of Title VII funds. Furthermore, since sites were to identify non-Title VII comparison classrooms whose students were reasonably similar to those in the Title VII classrooms selected for the Impact Study, it seemed reasonable to assume that the characteristics of non-Title VII teachers and aides indicated the kinds of classroom personnel that probably would have been available to Title VII students in the absence of Title VII support.

- What kinds of Spanish/English bilingual education projects are being supported by Title VII? Characteristics of the projects participating in the ESEA Title VII Spanish/English Bilingual Education Program that were in their fourth or fifth year of funding during the 1975-76 school year were summarized by means of frequency distributions of the analysis variables listed previously in Table IV-A-5. Of major interest in these descriptive analyses were the number and language proficiency of project staff and the procedure used when a project student became able to function in school in English.

- What were the costs (1975-76) associated with the Title VII bilingual project schools and non-Title VII schools? As described more fully in Chapter V, information obtained by AIR site visitors permitted the computation of per pupil costs by source of funds for Title VII-supported and non-Title VII-supported schools. To control for differences in cost of living, etc., results were further broken down by geographic region and by urban/rural setting.

Analysis Procedures: The Impact of the ESEA Title VII Spanish/English Bilingual Education Program During the 1975-76 School Year

The basic evaluation hypothesis tested in the analyses of overall Title VII program impact discussed in this report was whether or not the growth in achievement and changes in attitude demonstrated by students who were members of Title VII-supported projects exceeded those expected in the absence of a special Title VII educational treatment. A non-Title VII educational treatment expectation was estimated in two ways, (1) from the performance of students who were members of non-Title VII classrooms identified by each site as being composed of students who were similar to those in the Title VII classrooms in their district and (2) from the published normative data for the standardized tests used to assess English Language Arts and Mathematics achievement (the Comprehensive Tests of Basic Skills, 1973 Edition).

As with many large-scale educational evaluations conducted in applied school settings, it was not possible for the Impact Study to control either the kinds of students assigned to Title VII and non-Title VII classrooms or the nature of the educational treatment they received. Rather, it was necessary to select and to study the students enrolled in a representative sample of classrooms present in ESEA Title VII bilingual education projects in their fourth or fifth year of funding during the 1975-76 school year. Intact classrooms were selected. Also sampled were a number of existing non-Title VII classrooms that were believed to contain students who were similar to those in Title VII classrooms.

By design, then, the Impact Study was not, nor could it have been, an experimental investigation in which many of the threats to the internal validity of the findings were eliminated by random assignment of students to classrooms and by strict control of the nature of the Title VII and non-Title VII educational treatments themselves. Rather, the educational projects to which Title VII and non-Title VII students were exposed and the kinds of students participating in them were controlled by local education personnel and by the communities in which the projects were located. Since the usual mandate of a local education agency and its staff is to provide the best education for their particular students, given the funds available, it is not likely that they would or could be concerned with the kinds of practices that can invalidate evaluation conclusions. For example, it makes a great deal of sense for districts to assign students to special educational projects on the basis of need. However, from an evaluator's point of view, such practices mean that it may be necessary to compare the performance of the students in the special project with that of students who are not in the project and, therefore, who are different from project students. If differences in educational outcomes are found between these groups, it would not be possible to determine if the reason is the impact of the special project, or the fact that different and possibly non-comparable students were compared.

Since complex analytical and inferential problems are usually involved in the analysis of survey data collected from existing student groups, the most reasonable analytic strategy is to utilize more than one analytic procedure and comparative approach to examine the same basic hypothesis. If the hypothesized process being tested is truly present, it is assumed that it will transcend the possible artifacts present in one particular method. Convergence of results across methods, then, is viewed as an indication of the relative absence of the artifacts theoretically and possibly present in any one analytic strategy.

Thus, a number of somewhat different techniques were used to examine and evaluate the overall impact of the ESEA Title VII Spanish/English Bilingual Education Program. The results of the following analytic procedures constituted the lines of evidence upon which the Impact Study's findings and conclusions were based:

- Title VII/non-Title VII differences in simple pretest-to-posttest changes in mean achievement or attitude
- Title VII/non-Title VII differences with respect to the relationship of posttest with pretest and Socioeconomic Status
- Title VII/non-Title VII differences in adjusted posttest means, given that adjustments based on analysis of covariance are warranted
- Differences in mean pretest and mean posttest percentile ranks based upon CTBS national norms

As suggested by the U.S. Office of Education in its Request for Proposal and as agreed to by AIR, the unit of analysis used in these analyses was the individual student. The students included in the analyses for a given outcome variable (English Reading, English Vocabulary, Mathematics Computation, Spanish Reading, and Attitude Toward School) were those who were present in fall 1975 and again in spring 1976 who had both a pretest and a posttest score[1].

The analytic methods used by the Impact Study are well known and, for this reason, have not been discussed in detail in this report. However, the rationale for and limitations of these procedures are important considerations in interpreting the findings obtained. Therefore, additional discussion of the analysis methods used and the reasons for their use are included in the chapter reporting the study's findings concerning program impact (Chapter VI) rather than in this chapter.

Analysis Procedures: Unusually Effective and Unusually Ineffective Title VII and Non-Title VII Classrooms

Analyses of the impact of the ESEA Title VII Spanish/English Bilingual Education Program conducted for this report were designed to evaluate the average or overall effects that the program has had on participating students. Since the students present in these analyses were members of classrooms that comprised a representative sample of ESEA Title VII projects in their fourth or fifth year of funding as of 1975-76, the results of the overall analyses take on a distinctly national perspective. However, regardless of the conclusions concerning overall/average impact, it is considered likely that a great degree of variation in impact will be present among Title VII and non-Title VII classrooms. Of concern was the fact that overall analyses could detect only general trends and that particularly large gains in some classrooms may have been offset by small gains or losses in others. To determine if substantial changes in outcomes were indeed occurring in a small subset of classrooms participating in the Impact Study, a special series of analyses were undertaken to identify and to describe the characteristics of such unusually effective or unusually ineffective classrooms.

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[1] Students deleted from the impact analyses because of incomplete data formed a special sample which was compared with the sample included in the impact analyses. (See the end of this chapter [Section D]; Chapter VI, Section B; and Appendix IV-C.)

The unit of analysis in these analyses was the classroom because: (1) unusually effective or unusually ineffective classrooms were to be defined on the basis of pretest-to-posttest growth and classroom means which would be less subject to fluctuations due to chance factors than would individual student scores, (2) the classroom is usually the lowest organizational unit in a public school in which a unique educational program is implemented, and (3) a great deal of information was available concerning the classroom processes of a randomly selected sample of about one-half of the classrooms participating in the Impact Study.

It should be noted, however, that the findings of these analyses probably should not be generalized to all Title VII or all non-Title VII classrooms because unusually effective and unusually ineffective classrooms were identified on the basis of their performance. Such performance, however, may have been due to some unique characteristic (e.g., the particular teacher or students involved) or combination of characteristics not present in other outwardly similar classrooms.

The procedures used to identify unusually effective and unusually ineffective classrooms are discussed in detail in the chapter in which the findings are reported, Chapter VII. In brief, pretest and posttest scores for each outcome variable were aggregated (averaged) to the classroom level, including in these computations only those students having both a pretest and a posttest score. For each outcome variable, classroom mean posttest scores were regressed on mean pretest scores. Classrooms with the largest positive or negative residuals were identified. Attributes of these classrooms were then discussed.

D. Procedures for Selecting Students for Analysis

Basic Approach

Analyses examining each of the major questions addressed for this report were, by design, based upon the maximum amount of data available in the Impact Study data base, given the particular variable(s) involved and the constraints of the analytic procedure used. The following problems, however, led to differing numbers of students in the various analyses implemented:

- Loss of test data from one site
- Students leaving participating classrooms between pretest and posttest (attrition)
- Students entering participating classrooms between pretest and posttest (accretion)
- Missing data on individual variables

The existence of these problems led to the decision to define two analysis groups per grade: (1) all students present in the data base, that is, those students who were present during fall 1975 plus any new students who were present in spring 1976 and (2) students present during both fall 1975 and spring 1976. Presence during fall 1975 or spring 1976 was operationally defined by the existence of at least one correct item response on any of the cognitive tests administered for the Impact Study.

The Descriptive Analyses

Although the students who were present during both fall and spring were a subset of all students present in the data base, the number of students who were not present in fall and spring did not necessarily represent student attrition or accretion. This occurred because one of the thirty-eight projects in their fourth or fifth year of funding during the 1975-76 school year was not pretested until early February 1976 because of a teachers' strike and shipping strike during fall and winter 1975. Student Questionnaires and Teacher/Teacher Aide Questionnaires were administered at that time, but project level Educational Experience Analysis Guide (EdExAG) information was not gathered because an AIR staff member did not visit the site. No data at all were collected in spring 1976.

To make use of all appropriate available data whenever possible, project staff decided to include the Student Questionnaires and Teacher/Teacher Aide Questionnaires in all analyses involving scales derived from these instruments. However, it was necessary to exclude the site from all analyses of fall 1975-to-spring 1976 growth in achievement and change in attitude and from the descriptive analyses based upon project level EdExAG data. Thus, the characteristics of students and teachers participating in Title VII-supported projects described in this report (Chapter V, Sections A and B) were based upon a sample of classrooms from all projects in their fourth or fifth year of funding as of the 1975-76 school year. Attributes of projects (Chapter V, Section C) and fall/spring changes in achievement and attitudes (Chapter VI), on the other hand, were analyzed on the basis of data provided by thirty-seven of the thirty-eight eligible Title VII projects.

Loss of pretest/posttest data from an entire site, then, was the reason why the amount of attrition/accretion in the Impact Study data base was not merely the total number of students in the data base minus the number of students present during fall 1975 and spring 1976. Rather, attrition/accretion was computed on the basis of the students in the thirty-seven sites containing students who were pretested or posttested at the appropriate times of the school year. Attrition/accretion and missing data are discussed more fully in Appendix IV-C and in Chapter VI, Section B.

The Analysis of Fall 1975-to-Spring 1976 Growth

Analyses examining the impact of Title VII participation on growth in achievement and change in attitude included those students who (1) were present in the data base during both fall 1975 and spring 1976 and (2) had both a pretest and a posttest measure for the particular outcome variable analyzed[1]. For example, a particular student may have had CTBS Mathematics Computation pretest and posttest scores but only a CTBS Reading Vocabulary posttest score. Consequently, his/her data would have been included in the Mathematics analysis but not in the Vocabulary analysis. Although this approach meant that the student composition of the analysis samples for different outcome variables might not be identical, it was felt that such a procedure would minimize the amount of missing data in a given analysis. Dramatic differences in numbers of students in the analyses of different outcomes, however, were not expected.

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[1] Both pretest and Socioeconomic Status were covariates in these analyses. However, because of the missing data replacement procedure used for the SES scale (discussed in Section B of this chapter), each student who was present during fall 1975 and spring 1976 had an SES scale score.

The Analysis of Unusually Effective and Unusually Ineffective Classrooms

The test scores aggregated (averaged) to the classroom level in these analyses were based upon students who were present in the classroom during both fall 1975 and spring 1976 who had both a pretest and a posttest measure for a given test. Other variables of interest (i.e., other than outcome variables) were based upon the data pertaining to all students present in the classroom during both fall and spring. It was felt that these procedures permitted the computation of the most valid and representative measures of classroom achievement and attitudes for these particular analyses because only the students who were exposed to the program and the teacher for a whole school year were included.

Summary of Procedures for Selecting Students for Analysis Samples

The rules governing the presence of a given student in a particular analysis sample may be summarized as follows:

- Characteristics of all students and teachers in all eligible sites were included in the descriptive analyses of the participants in Title VII. Each descriptive tabulation was based upon the students or teachers who had data for the analysis variable(s) involved.
- Characteristics of Title VII projects were based upon data pertaining to thirty-seven of the thirty-eight Title VII projects that were in their fourth or fifth year of funding in 1975-76.
- Each analysis in which Title VII/non-Title VII group membership was related to fall-1975-to-spring-1976 growth in achievement or change in attitude included all those students who were present in a participating classroom during both fall 1975 and spring 1976 and who had a pretest and a posttest score.

- Analyses of unusually effective nad unusually ineffective classrooms involved test score means for a given classroom computed on the basis of those students who were present in the classroom during both fall 1975 and spring 1976 who had a given pretest and a posttest score. Other characteristics of the classrooms were computed on the basis of all students who were present during both fall 1975 and spring 1976.

V. RESULTS: CHARACTERISTICS OF STUDENTS, TEACHERS, AND PROJECTS PARTICIPATING IN THE ESEA TITLE VII SPANISH/ENGLISH BILINGUAL EDUCATION PROGRAM

A. What Kinds of Students Are Being Served by the Program?

Ethnicity

An examination of Table V-A-1 shows that a fairly consistent percentage of Hispanic students is present across grades 2 through 6. ("Hispanic" includes students who are of Central American, Cuban, Mexican, Puerto Rican, South American, or Spanish [from Spain] descent.) Approximately three-quarters of the students enrolled in the Title VII Spanish/English classrooms were of Hispanic origin. Non-Hispanic whites and blacks accounted respectively for less than 10% of the student population in the classrooms. Less than 1% of the students were either American Indians or Asians. The "Other" category accounted for about 8% of the students. This "Other" category reflects possibly the difficulty experienced by teachers deciding to which ethnic category a given student belonged.

Reason for Student Being in a Title VII Classroom

Table V-A-2 summarizes the reasons given by teachers for the placement of students in the Title VII Spanish/English classrooms. The data presented in the table are compilations of responses made by teachers about each student and thus reflect student-level data.

Detailed examination by individual site and classroom for each grade indicated that, in general, the overall data presented in Table V-A-2 were not the result of unusual distributions in a small number of sites or classrooms. Generally, less than a third of the students in the bilingual classrooms were there because of their limited English-speaking ability (target students of Title VII legislation). The reasons given for placement in the bilingual classroom were examined for each ethnic group and are reported in Table V-A-3. For students of Hispanic background, 35% in the second-grade bilingual classroom were there because of their

TABLE V-A-1

Ethnicity of Students in Title VII Spanish/English Classrooms Sampled by the Impact Study

Grade	Hispanic		Non-Hispanic White		Black		American Indian		Asian		Other		Subtotal[a]	Missing Data	Total
	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)			
2	1107	(74.3)	102	(6.9)	110	(7.4)	4	(0.3)	4	(0.3)	162	(10.9)	1489	47	1536
3	1340	(74.3)	174	(9.6)	144	(8.0)	4	(0.2)	7	(0.4)	135	(7.5)	1804	47	1851
4	1359	(79.8)	147	(8.6)	113	(6.6)	8	(0.5)	9	(0.5)	66	(3.9)	1702	46	1748
5	1054	(78.1)	99	(7.3)	70	(5.2)	5	(0.4)	3	(0.2)	118	(8.7)	1349	41	1390
6	620	(75.8)	84	(10.3)	25	(3.1)	2	(0.2)	0	0	87	(10.6)	818	21	839

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[a] Total number of Title VII students for whom ethnic group membership data are available and on which the percentages shown in this table are based.

TABLE V-A-2

Reason for Students Sampled by the Impact Study Being in Title VII Spanish/English Bilingual Project Classrooms

Grade	Spanish Surname		Need for English		Parent Request		Bilingualism		Other		Subtotal[a]	Missing Data	Total
	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)			
2	110	(7.6)	479	(33.1)	504	(34.8)	110	(7.6)	244	(16.9)	1447	89	1536
3	92	(5.3)	452	(26.0)	764	(43.9)	151	(8.7)	281	(16.1)	1740	111	1851
4	133	(8.1)	416	(25.2)	548	(33.3)	362	(22.0)	189	(11.5)	1648	100	1748
5	60	(4.6)	241	(18.6)	519	(40.0)	205	(15.8)	274	(21.1)	1299	91	1390
6	73	(9.8)	225	(30.3)	275	(37.1)	114	(15.4)	55	(7.4)	742	97	839

[a] Total number of Title VII students for whom basis for presence data were available and on which the percentages shown on this table are based.

TABLE V-A-3

Percent[a] of Students by Reason for Being in Title VII Classroom

Ethnicity[b]	Spanish Surname					Need for English Instruction (limited English proficiency)					Parent Request					Already Bilingual					Other Reason				
	Grade					Grade					Grade					Grade					Grade				
	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6	2	3	4	5	6
Hispanic	9.2	6.8	9.1	5.8	11.0	35.3	29.8	29.2	19.2	26.8	31.6	38.9	26.5	33.9	34.6	9.4	11.3	26.2	19.5	19.0	14.5	13.2	8.9	21.6	8.6
White Non-Hispanic	3.0	1.3	1.4	0	1.7	0	.6	2.1	1.2	1.7	88.1	65.4	70.1	71.6	85.0	0	.6	5.6	0	5.0	8.9	32.1	20.8	27.2	6.7
Black	0	0	1.9	0	0	20.2	1.4	4.6	0	0	46.5	76.3	61.1	85.1	94.4	0	.7	3.7	0	0	33.3	21.6	28.7	14.9	5.6

[a] Number of students for whom these data were available:

	Grade				
	2	3	4	5	6
Hispanic	1074	1291	1312	1028	583
White Non-Hispanic	101	156	144	81	60
Black	99	139	108	67	18

[b] American Indian and Asian categories are not shown because only five to ten students were present per grade.

limited English-speaking ability. For grades 3, 4, 5, and 6, the corresponding percentages were, respectively, 30%, 29%, 19%, and 27%. (It should be noted that students who are not of limited English-speaking ability can be enrolled in the bilingual projects upon parental request.)

Number of Years in Bilingual Class Prior to 1975-76

Table V-A-4 shows the number of previous years of bilingual education received by the students in grades 2 through 6. This information sheds some light on the question of stability of the student population across time in the bilingual classrooms. Sixty-nine percent of the second-graders had been in bilingual classrooms for two years or more. This percentage increases slightly to about three-quarters of the students for grade 3. It stays fairly consistent for grades 4, 5, and 6. Thus, approximately three-quarters of the students in the classrooms had two or more years of bilingual education prior to the 1975-76 school year. Somewhat more than half of the students in the fourth, fifth, and sixth grades had been in bilingual classrooms for three years or more prior to the 1975-76 school year.

Age of Students

Table V-A-5 shows the distribution of ages by grade. Approximately 60% of the second-graders were seven years old; about 30% of them were eight years old. Third-graders were generally eight or nine years old, fourth-graders were nine or ten years old, and fifth- and sixth-graders were almost all ten years of age or older.

Sex of Students

Table V-A-6 shows the distribution of boys and girls in grades 2 through 6 in the classrooms. In all grades there were slightly more girls than boys, the percentage varying around 50% for both sexes.

TABLE V-A-4

Years in Bilingual Education Classes Prior to the 1975-76 School Year for Students in Title VII Spanish/English Classrooms Sampled by the Impact Study

Grade	1 or fewer		2		3		4		5		6 or more		Subtotal[a]	Missing Data	Total
	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)			
2	436	(31.3)	565	(40.6)	356	(25.6)	34	(2.4)	---	---	---	---	1391	145	1536
3	385	(23.6)	489	(30.0)	577	(35.4)	176	(10.8)	4	(0.2)	---	---	1631	220	1851
4	365	(24.1)	243	(16.0)	419	(27.6)	395	(26.1)	88	(5.8)	6	(0.4)	1516	232	1748
5	244	(20.7)	235	(20.0)	222	(18.9)	262	(22.3)	211	(17.9)	2	(0.2)	1176	214	1390
6	159	(27.2)	116	(19.8)	89	(15.2)	112	(19.1)	58	(9.9)	51	(8.7)	585	254	839

[a] Total number of Title VII students for whom prior exposure data were available and on which the percentages shown in this table are based.

TABLE V-A-5

Age of Students in the Title VII Spanish/English Classrooms
Sampled by the Impact Study

Grade	6		7		8		9		10 or over		Subtotal[a]	Missing Data	Total
	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)			
2	43	(2.9)	916	(62.3)	417	(28.4)	85	(5.8)	9	(0.6)	1470	66	1536
3	--	--	37	(2.0)	1075	(59.6)	579	(32.1)	114	(6.3)	1805	46	1851
4	--	--	--	--	44	(2.6)	946	(55.9)	703	(41.5)	1693	55	1748
5	--	--	--	--	--	--	66	(4.9)	1279	(95.1)	1345	45	1390
6	--	--	--	--	--	--	5	(0.1)	814	(99.4)	819	20	839

[a] Total number of Title VII students for whom age data were available and on which the percentages shown in this table are based.

TABLE V-A-6

Sex of Students in the Title VII Spanish/English Classrooms
Sampled by the Impact Study

Grade	Boys		Girls		Subtotal[a]	Missing Data	Total
	Number	(Percent)	Number	(Percent)			
2	292	(45.8)	345	(54.2)	637	899	1536
3	633	(47.1)	711	(52.9)	1344	507	1851
4	680	(49.7)	689	(50.3)	1369	379	1748
5	498	(47.7)	547	(52.3)	1045	345	1390
6	259	(45.7)	308	(54.3)	567	272	839

[a] Number of students for whom sex data was available and on which the percentages shown in this table are based.

Language Groups

For purposes of test and questionnaire administration, teachers of the bilingual classrooms had been asked to assign students to one of four language groups (English monolingual, English-dominant bilingual, Spanish-dominant bilingual, Spanish monolingual) so that the appropriate language versions of the Mathematics test and Student Questionnaire as well as the appropriate Reading test could be administered to each student. Table V-A-7 shows by grade the distribution of students across the four language groups. This table shows that approximately a third of the second-graders were designated Spanish monolingual by their teachers, with approximately a third being designated English monolingual. Approximately 60% of the second-graders were judged by their teachers to be English monolingual or English-dominant bilingual. The same is true of the third-graders, with approximately 74% being judged by their teachers to be either English monolingual or English-dominant bilingual (41% were judged to be English monolingual). Approximately three-quarters of the fourth-, fifth-, and sixth-graders in the bilingual classrooms were judged to be either English monolingual or English-dominant bilingual students.

Socioeconomic Status of Students Across Grades

Table V-A-8 shows the mean socioeconomic status by ethnic group for students in the bilingual classrooms. Some characteristics of the socioeconomic status scale can be briefly summarized here to aid in understanding the relative meaning of these scores. For example, a socioeconomic status score of 4 could be obtained by a student whose parents have a grade school education and work at a service worker or machine-operator occupational level. A score of 5 could be obtained if the parents had a high school education and were still employed as service workers or machine operators. A score of 6 could represent a high school education and skilled-craftsman level of occupation. (A word of caution is in order in interpreting the data presented in this table. The number of students of American Indian and Asian heritage is quite low, and caution should be exercised in interpreting their scores.) Generally, it appears that socioeconomic status is highest for the white non-Hispanic category in all grades except grade 6 in which the mean socioeconomic

TABLE V-A-7

Number of Impact Study Students Assigned by Teachers to
Each of Four Language Groups for Test and Questionnaire Administration Purposes

Grade	Spanish Monolingual		Spanish-Dominant Bilingual		English-Dominant Bilingual		English Monolingual		Subtotal	Missing Data	Total
	Number	(Percent)	Number	(Percent)	Number	(Percent)	Number	(Percent)			
2	525	(34.2)	122	(7.9)	430	(28.0)	459	(29.9)	1536	0	1536
3	407	(22.0)	83	(4.5)	602	(32.5)	759	(41.0)	1851	0	1851
4	297	(17.0)	133	(7.6)	683	(39.1)	635	(36.3)	1748	0	1748
5	249	(17.9)	98	(7.1)	445	(32.0)	598	(43.1)	1390	0	1390
6	159	(19.0)	44	(5.2)	388	(46.2)	248	(29.6)	839	0	839

TABLE V-A-8

Mean Socioeconomic Status (SES) by Ethnic Group for Students Enrolled in Title VII Spanish/English Classrooms Sampled by the Impact Study

Grade	Hispanic		White Non-Hispanic		Black		American Indian		Asian		Other		Missing Data[a]		All Title VII Students	
	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number
2	4.5	1107	7.3	102	5.8	110	6.7	4	8.3	4	5.2	162	5.1	47	4.9	1536
3	5.0	1340	6.5	174	6.1	144	6.5	4	9.5	7	4.4	135	4.9	47	5.2	1851
4	4.6	1359	6.3	147	5.7	113	5.8	8	8.2	9	4.2	66	5.0	46	4.8	1748
5	5.0	1054	6.6	99	5.9	70	6.1	5	6.0	3	4.4	118	4.9	41	5.1	1390
6	5.2	620	7.0	84	7.4	25	7.8	2	0.0	0	6.0	87	5.4	21	5.6	839

[a] Missing data with respect to ethnic group membership.

TABLE V-A-9

Average Number of School Days Absent Between Fall 1975 Pretest and Spring 1976 Posttest by Ethnic Group[a] for Students in Title VII Spanish/English Classrooms Sampled by the Impact Study

Grade	Hispanic		White Non-Hispanic		Black		American Indian		Asian		Other	
	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number	Mean	Number
2	12.6	655	9.8	66	12.9	61	2.0	3	9.0	2	15.0	67
3	11.7	709	11.4	89	11.1	77	20.5	2	15.8	4	12.0	95
4	10.0	804	8.4	86	11.8	66[b]	7.0	6	6.4	5	8.3	39
5	11.1	615	14.1	64	9.7	44	3.8	4	7.0	2	8.0	62
6	11.4	302	9.8	56	6.4	18	11.5	2	0.0	0	12.2	46

[a] Based upon all Title VII students present for the pretest and posttest.

[b] Missing data with respect to ethnic group membership.

TABLE V-A-9 (continued)

Missing Data[b]		Totals with Data		Number of Students Present Between Pretest and Posttest but Having No Absentee Data	Number of Students Present During Pretest and Posttest	Number of Students Not Present Between Pretest and Posttest	Total
Mean	Number	Mean	Number				
5.5	4	12.5	858	198	1056	480	1536
5.5	2	11.7	978	392	1370	491	1851
1.0	1	9.9	1007	281	1288	460	1748
0.0	0	10.9	791	267	1058	332	1390
11.0	2	11.1	426	113	539	300	839

status score for black students is somewhat higher. Generally, there is little variation across the grades. There does not seem to be any particular socioeconomic status level associated with any particular grade.

School Attendance Between Fall and Spring Testing Dates

The mean number of days absent for students in each grade between the fall 1975 pretest and the spring 1976 posttest is shown in Table V-A-9 (see preceding pages). The information is presented by ethnic group. In general, teachers did not readily provide this information, so information about a considerable number of students was not reported. For all Title VII students combined, the average number of days absent between the pretest and the posttest was from ten to twelve days. Comparisons across ethnic groups within grades show no startling differences in terms of number of days absent. The groups were within two to three days of each other for all grades with the exception of the sixth grade in which the number of days absent for black students averaged 6.4 compared to 11.4 for Hispanic students and 9.8 for white non-Hispanic students. The small number of black students in grade 6, however, should temper the interpretation of this difference.

B. What Are the Characteristics of Title VII Teachers and Their Aides?

Overall teaching characteristics. Table V-B-1 shows the difference between Title VII teachers and aides and non-Title VII teachers and aides in terms of their teaching qualifications. There appears to be no difference between the Title VII teachers and the non-Title VII teachers on the scale of Overall Teaching Qualifications, but the Title VII aides have slightly stronger overall qualifications when compared to the non-Title VII aides. In terms of the specific items upon which this overall scale is based, 86% of the Title VII teachers and 71% of the Title VII aides said that they had been teaching for two years or more; 78% of the Title VII teachers and 8% of the Title VII aides said that they had a regular or a bilingual teaching credential; and 31% of the Title VII teachers and 1% of the Title VII aides reported having at least a master's degree.

Training in bilingual education. Table V-B-2 shows the amount of training in bilingual education of the teachers and aides participating in the Impact Study. About one-third of the non-Title VII teachers and aides were involved in a bilingual program, and they had much lower mean scores on the Bilingual Training Scale than did their Title VII counterparts. Sixty-five percent of the Title VII teachers and 65% of the Title VII aides said that they had two years or more of bilingual teaching experience. Seventy-four percent of the Title VII teachers and 55% of the Title VII aides said that they had had some course work in bilingual education. Ninety-four percent of the Title VII teachers and 80% of the Title VII aides said that they had attended inservice or district workshops in bilingual/bicultural education in the last five years. Sixty-three percent of the Title VII teachers and 41% of the Title VII aides reported having attended a bilingual/bicultural conference in the last five years.

Teacher bilinguality. Table V-B-3 shows the differences between Title VII teachers and aides and non-Title VII teachers and aides in terms of Spanish-English bilinguality. As measured by our scale of Teacher Bilinguality, more of the Title VII teachers were bilingual than were the non-Title VII teachers. Both the Title VII aides and the non-Title VII aides tended to be more bilingual than the teachers. In addition, the non-Title VII aides tended to be as bilingual as Title VII teachers and considerably more bilingual than the non-Title VII teachers.

Sixty-seven percent of the Title VII teachers and 90% of the Title VII aides said that they used both Spanish and English in the home. Sixty-nine percent of the Title VII teachers who had children and 88% of the Title VII aides who had children said that they used both Spanish and English with their children. Sixty-nine percent of the Title VII teachers and 28% of the Title VII aides said that they used both Spanish and English in speaking with their bilingual friends.

Fourteen percent of the Title VII teachers and 21% of the Title VII aides said that they were proficient in both Spanish and English as children. Twenty-six percent of the Title VII teachers and 47% of the Title VII aides said that they were proficient in both Spanish

TABLE V-B-1

Overall Teaching Qualifications of the Teachers and Aides Participating in the Impact Study

	Teachers		Aides	
	Title VII	Non-Title VII	Title VII	Nor-Title VII
Overall Teaching Qualifications Scale				
Mean	3.0	3.1	1.6	1.3
Standard Deviation	.5	.5	.6	.5
Percent Who Have Been Teaching for Two Years or More	86.0%	92.9%	71.2%	41.7%
Percent Who Have a Regular or a Bilingual Teaching Credential	78.3%	80.4%	7.6%	4.0%
Percent Who Have at Least a Master's Degree	31.4%	19.4%	0.7%	3.6%
Number of Respondents* to These Questions	229	98	150	28

* The total number of respondents to the Teacher/Teacher Aide Questionnaire was 507. This includes seven teachers and four aides for one site that was not used in our impact analyses because of the absence of posttest data.

TABLE V-B-2

Training in Bilingual Education of the Teachers and Aides Participating in the Impact Study

	Teachers		Aides	
	Title VII	Non-Title VII	Title VII	Non-Title VII
Bilingual Teaching Qualifications Scale				
Mean	2.9	1.8	2.5	1.7
Standard Deviation	.9	.9	.9	.9
Percent Who Had Been Teaching in Bilingual Education for Two Years or More	64.7%	22.2%	64.8%	25.0%
Percent Who Had Some Course Work in Bilingual Education	74.4%	36.4%	55.2%	23.1%
Percent Who Had Attended Inservice or School District Workshops in Bilingual/Bicultural Education in the Last Five Years	93.8%	59.4%	80.4%	50.0%
Percent Who Had Attended a State or National Bilingual/Bicultural Conference in the Last Five Years	63.1%	20.6%	41.2%	16.7%
Number of Respondents* to These Questions	225	34	149	13

* The total number of respondents to the Teacher/Teacher Aide Questionnaire was 507. This includes seven teachers and four aides for one site that was not used in our impact analyses because of the absence of posttest data.

TABLE V-B-3

Bilinguality of the Teachers and Aides Participating in the Impact Study

	Teachers		Aides	
	Title VII	Non-Title VII	Title VII	Non-Title VII
Teacher Bilinguality Scale				
Mean	2.6	1.6	3.2	2.7
Standard Deviation	1.1	1.0	.9	1.5
Percent Who Use Both Spanish and English in Their Homes	67.0%	30.6%	89.5%	60.7%
Percent Who Use Both Spanish and English with Their Children	68.8%	32.4%	88.0%	58.8%
Percent Who Use Both Spanish and English with Their Bilingual Friends	68.6%	79.6%	28.1%	10.7%
Percent Who Were Proficient in Both Spanish and English as Children	14.0%	3.1%	20.7%	28.6%
Percent Who Were Proficient in Both Spanish and English as Teenagers	25.9%	13.3%	46.7%	35.7%
Percent Who Are Now Proficient in Both Spanish and English	50.4%	13.3%	66.2%	46.4%
Number of Respondents* to These Questions	229	98	152	28

* The total number of respondents to the Teacher/Teacher Aide Questionnaire was 507. This includes seven teachers and four aides for one site that was not used in our impact analyses because of the absence of posttest data.

and English as teenagers. Fifty percent of the Title VII teachers and 66% of their aides said that they were now proficient in both Spanish and English.

C. What Kinds of Spanish/English Bilingual Education Projects Are Being Supported by Title VII?

Information on the characteristics of the thirty-seven Title VII Spanish/English projects in the Impact Study sample was obtained through a personal interview with each project director by trained AIR staff. An interview guide developed for use at the project level guided the interviewer through a series of questions attempting to determine size of the project, characteristics of the support personnel, project policy regarding the Spanish-dominant student, funding sources, district and state support, evaluation procedures, and school board attitude toward the project. This section will focus on the characteristics of the thirty-seven projects regarding size, project director turnover rate, support personnel characteristics, project policy regarding the Spanish-dominant student, and the diversity of project evaluation.

Number of classrooms per project. The discussion of classrooms included in each project should not be confused with the classrooms included for the Impact Study. In general, there are more classrooms per project than were tested because the Impact Study assessed only students in grades 2 through 6. The number of classrooms served by a Title VII project ranged from 4 to 170. Many of the projects (40%) ranged in number of classrooms from eleven to twenty; 27% of the projects ranged in size from thirty-one to fifty classrooms; 16% ranged in size from four to ten classrooms; 8% ranged in size from twenty-one to thirty classrooms; 5% served fifty-one to eighty classrooms; and 3% served 170 classrooms. The mean project size by classroom was twenty-eight classrooms per project, and the mode was in the eleven-to-twenty-classroom range.

Number of students served per project. The number of students served by the Title VII projects ranged from 200 to 5,000. Fifty-one percent of the projects served 200 to 500 students; 14% served 501 to 1,000 students; 19% served 1,001 to 1,500 students; 11% served 1,501 to 2,000 students; and 5% served from 2,001 to 5,000 students. Of this latter category , one project served 2,160 students, and the largest project served 5,000 students.

Characteristics of support personnel. Interviewers asked how many project directors had served in each project since its inception. Fifty-six percent of the projects had had two project directors in the last five years; 32% had had one project director; and 10% had had three project directors in the last four to five years. Characteristics of the support personnel were also obtained in the interview with each project director. The support personnel includes all personnel involved in the project except the classroom teachers and aides. Support personnel included the Project Director, the school/community liaison, curriculum materials specialists, professional consultants, speech/hearing/remedial reading specialists, psychologists, media development specialists, and volunteers. The total number of support personnel across all thirty-seven projects was reported as 274. The range for support personnel for the projects was between one and twenty-nine staff members. Fifty-four percent of the projects reported a support personnel staff ranging in size from one to five; 30% reported a support staff of six to ten; 5% reported a support staff of eleven to fifteen; 3% reported a staff of sixteen to twenty; 8% reported a support staff of twenty-six to thirty. The characteristics of the support staff were averaged across all the sites. Seventy-two percent of the support personnel were bilingual; 26% were English monolingual; and 1% were Spanish monolingual. Sixty-six percent of the support staff were of Hispanic descent; 30% were white non-Hispanic; 3% were black; and there was one staff member of Asian descent.

Attitude of school board. When asked their perceptions of the school board's attitude toward the bilingual project, 48% of the project directors reported a moderately positive attitude on the school board's behalf; 35% reported a very positive attitude on behalf of the school board; and 16% reported a low or indifferent attitude on behalf of the school board.

Placement policy. Of particular interest to the Impact Study was the projects' policy with regard to the placement of the Spanish-dominant student, once he/she is able to function in school in English. When project directors were asked this question, 86% responded that the student remains in the bilingual project; 8% responded that the student is transferred to an English-only classroom with some Spanish language follow-up; 5% of the project directors responded that the student is transferred to an English-only classroom with no Spanish language maintenance. From this information it appears that by far the majority of the projects attempt to implement a maintenance bilingual project.

Types of evaluation. The project directors were also asked about the types of ongoing student evaluation. Eighty-four percent of the project directors responded that student achievement is assessed in Spanish Language Arts, English Language Arts, and Mathematics; 11% responded that student achievement is assessed in the student's most proficient language in Reading, Mathematics, and Spanish; 5% indicated that student achievement is assessed in English Language Arts and Mathematics only. Sixty-four percent of the project directors indicated that they assessed student attitude by means of observation; 35% of the project directors assessed student attitude by means of a student questionnaire.

D. What Were the Costs (1975-76) Associated With the Title VII Bilingual Project Schools and Non-Title VII Schools?

During site visits to each participating site, AIR staff interviewed cognizant local personnel to obtain per pupil costs associated with both Title VII and non-Title VII students at the site. Specific cost records were not examined by AIR staff. The individuals interviewed were asked to categorize the funding sources into (1) Title VII bilingual funds, (2) other bilingual funds, (3) other additional funds for the school, and (4) basic district funds.

To obtain per pupil costs for Title VII and non-Title VII students the following operations were performed on the cost data:

- Title VII bilingual funds. Total project funds for the school year were divided by the number of students being served by the project. Thus this figure is not restricted to classroom costs but represents the overall costs of the project by student associated with Title VII funds. (For example, a project receiving $250,000 for the 1975-76 school year from Title VII and serving 500 students is in essence spending $500 per student.) It is felt that this figure enables one to examine fully the individual Title VII project costs.

- Other bilingual funds. Total other bilingual funds for the school year were divided by the number of students in the bilingual project.
- Other additional funds for the school. The 1975-76 school year figure was divided by the number of students in the school. This category included such sources as other federal and state funding not associated with bilingual education (which was included in item 2 above).
- Basic district funds. The figure obtained from district personnel and records was used. (This figure was obtained for gross comparison purposes and was not central to the cost analyses of the Title VII bilingual project.)

Tables V-D-1 through V-D-6 show the per pupil costs associated with the four funding categories for Title VII and non-Title VII schools participating in the Impact Study. In addition to the costs associated with each of the funding categories, the categories are summed to provide total non-district costs per pupil (a sum of Title VII, other bilingual, and other additional funds for the school) and a grand total per pupil cost figure (sum of total non-district and basic district). In the table, sites were grouped according to geographical region and by urban/rural setting in recognition of possible costing variations. The number of schools shown in the various parts of the table reflect the number of schools providing the information and on which the mean was based.

Variations among geographical regions are evident when the per pupil costs are examined. Urban/rural setting variations were also present.

Per pupil costs for Title VII students from Title VII funds ranged, depending on region, from $150 to $739 with an average of $310.

TABLE V-D-1

Cost Per Pupil from Title VII Bilingual Funds for Title VII and Non-Title VII Schools by Region and by Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean	488	No Title VII funds
	Std.Dev.	321	
	N	29	
Midwest	Mean	739	No Title VII funds
	Std.Dev.	381	
	N	4	
South	Mean	268	No Title VII funds
	Std.Dev.	0	
	N	2	
Southwest	Mean	150	No Title VII funds
	Std.Dev.	92	
	N	39	
West	Mean	271	No Title VII funds
	Std.Dev.	96	
	N	15	

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean	373	No Title VII funds
	Std.Dev.	289	
	N	58	
Rural	Mean	192	No Title VII funds
	Std.Dev.	186	
	N	31	

TABLE V-D-2

Cost Per Pupil from Other Bilingual Funds for Title VII and Non-Title VII Schools by Region and by Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean	18	0
	Std.Dev.	34	0
	N	29	5
Midwest	Mean	0	0
	Std.Dev.	0	0
	N	4	1
South	Mean	54	0
	Std.Dev.	0	0
	N	2	1
Southwest	Mean	71	0
	Std.Dev.	117	0
	N	35	22
West	Mean	42	0
	Std.Dev.	60	0
	N	15	4

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean	25	0
	Std.Dev.	47	0
	N	58	23
Rural	Mean	85	0
	Std.Dev.	125	0
	N	27	10

TABLE V-D-3

Cost Per Pupil from Other Additional Funds for the School for Title VII and Non-Title VII Schools by Region and by Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean	105	88
	Std.Dev.	97	92
	N	29	5
Midwest	Mean	245	117
	Std.Dev.	123	0
	N	4	1
South	Mean	0	0
	Std.Dev.	0	0
	N	2	1
Southwest	Mean	191	190
	Std.Dev.	73	173
	N	38	22
West	Mean	271	89
	Std.Dev.	158	100
	N	15	4

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean	172	132
	Std.Dev.	132	92
	N	57	23
Rural	Mean	179	206
	Std.Dev.	90	250
	N	31	10

TABLE V-D-4

Cost Per Pupil from Total Non-District Funds for Title VII and Non-Title VII Schools by Region and by Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean	611	88
	Std.Dev.	367	92
	N	29	5
Midwest	Mean	984	117
	Std.Dev.	273	0
	N	4	1
South	Mean	321	0
	Std.Dev.	0	0
	N	2	1
Southwest	Mean	398	190
	Std.Dev.	180	173
	N	34	22
West	Mean	584	89
	Std.Dev.	182	100
	N	15	4

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean	571	132
	Std.Dev.	308	92
	N	57	23
Rural	Mean	447	206
	Std.Dev.	254	250
	N	27	10

TABLE V-D-5

Cost Per Pupil from Basic District Funds for Title VII and Non-Title VII Schools By Region and By Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean Std.Dev. N	1243 483 14	1384 518 2
Midwest	Mean Std.Dev. N	1200 0 1	No Data Available
South	Mean Std.Dev. N	1084 0 2	1084 0 1
Southwest	Mean Std.Dev. N	680 258 36	762 149 19
West	Mean Std.Dev. N	1130 351 15	1206 327 3

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean Std.Dev. N	1086 409 39	947 303 17
Rural	Mean Std.Dev. N	685 291 29	729 201 8

TABLE V-D-6

Grand Total Cost Per Pupil from Non-District and District Funds for Title VII and Non-Title VII Schools by Region and by Urban/Rural Classification

Region of U.S.		Title VII Schools	Non-Title VII Schools
Northeast	Mean	1628	1534
	Std.Dev.	627	633
	N	14	2
Midwest	Mean	2120	No Data Available
	Std.Dev.	0	
	N	1	
South	Mean	1405	1084
	Std.Dev.	0	0
	N	2	1
Southwest	Mean	1127	922
	Std.Dev.	146	146
	N	32	19
West	Mean	1714	1295
	Std.Dev.	408	254
	N	15	3

Urban/Rural Setting		Title VII Schools	Non-Title VII Schools
Urban	Mean	1554	1097
	Std.Dev.	499	279
	N	39	17
Rural	Mean	1155	863
	Std.Dev.	236	210
	N	25	8

In addition to these Title VII funds, Title VII students also received additional per pupil funds from other bilingual funding sources. These per pupil funds ranged from $18 to $71 with an average of $44. Additional funds coming from other funding sources for the Title VII schools ranged from $0 to $271, with an average of $174. Non-Title VII schools received additional funds ranging from $0 to $190, with an average of $154. Considering all of these additional non-district per pupil funds, the total ranged from $321 to $984 with an average of $531 for Title VII students. Non-Title VII students received from $0 to $190 total non-district funds with an average of $154. When these funds are added to the basic district per pupil funds, the grand total for Title VII students ranged from $1,127 to $2,120 with an average of $1,398. The grand total for non-Title VII students ranged from $922 to $1,534 with an average of $1,022.

VI. RESULTS: THE IMPACT OF THE ESEA TITLE VII SPANISH/ENGLISH BILINGUAL EDUCATION PROGRAM DURING THE 1975-76 SCHOOL YEAR

Presented in this chapter are the results of the analyses designed to evaluate the impact of the ESEA Title VII Spanish/English Bilingual Education Program on the achievement and attitudes of students participating in program-funded projects during the 1975-76 school year. Findings are presented and methods are reviewed as the answers to a series of basic questions that are usually of concern in most survey-type educational evaluation efforts or that are of special significance in the Impact Study.

A. What Was the General Approach Used in Evaluating the Impact of the ESEA Title VII Spanish/English Bilingual Education Program?

Basic Evaluation Plan

As described more fully in the Evaluation Plan Selected for the Study (Chapter II, Section B), the general evaluation model used by the Impact Study was that of comparing Title VII and reasonably similar non-Title VII students with respect to their growth in achievement (or change in attitude) during the 1975-76 school year. So that the findings would be based on mature, fully operational projects, the study involved the collection of data from students and teachers in a representative sample of the grades and classrooms present in all thirty-eight Title VII Spanish/English projects that were in their fourth or fifth year of operation as of the 1975-76 school year. Data were also collected from students and teachers in non-Title VII classrooms. These classrooms were nominated by each participating site because they were believed to contain students who were similar to those enrolled in that site's Title VII-supported classrooms.

Analytic Approaches Used

Because methodological artifacts (e.g., regression of posttest scores toward different means) may sometimes be present in the analyses of survey-type evaluation data, the Impact Study data were analyzed as intensively as possible given the time that was available for analysis. The basic approach was to analyze the data from a variety of perspectives so that it might be possible to assess if a given set of results were method dependent. The approaches used involved primarily the following procedures:

- Testing whether or not the rate of growth in achievement and in attitude between fall 1975 (pretest) and spring 1976 (posttest) was similar for Title VII and non-Title VII students
- Comparing similar Title VII and non-Title VII student groups with respect to their average level of achievement or attitude at the end of the 1975-76 school year (statistically adjusting the results for small pretest and socioeconomic status differences among the groups by analysis of covariance)
- Comparing the achievement growth demonstrated by Title VII students with the growth expected on the basis of national norms for students who scored at similar pretest achievement levels. (This approach did not involve comparing Title VII students with median or average achievement as defined by the norms.)

B. What Kinds of Students Were Included in the Analyses of Title VII Impact?

Sites Included in the Impact Analyses

Although data from all thirty-eight projects were included in the analyses describing the students and teachers participating in Title VII projects (see Chapter V), the analyses of fall 1975 to spring 1976 changes in achievement and attitude discussed in this chapter were based on data from thirty-seven of these thirty-eight sites. A teachers' strike and a shipping strike during fall/winter 1975 delayed the pretest and questionnaire administration at one site until early February 1976. Project staff decided that the descriptive data collected from teachers and students at that time was usable, but that the student achievement test data should not be analyzed along with the test scores gathered in all other projects during fall 1975. For this reason, posttest data were not collected at this site. Thus, the 309 second-, third-, and fourth-grade students from this one site were not included in the analyses of Title VII program impact reported here. (Tabel VI-B-1a in Appendix VI-B shows the number of Title VII and non-Title VII students from this one site who were included in the Impact Study data base.)

Selection of the Students Included in the Impact Analyses

Analyses of Title VII program impact were based on the data provided by students present in participating schools and classrooms during both fall 1975 and spring 1976 because (1) the basic analytic approach to be utilized was the comparison of amounts of fall-to-spring growth in achievement (or change in attitude) for Title VII and non-Title VII students, (2) it was desirable to base analyses of pretest-to-posttest growth on the same students to minimize the possible impact of fall-to-spring fluctuations in the composition of the sample (e.g., changes in pretest and posttest means primarily due to students leaving or entering classrooms at midyear), and (3) these particular students would have had maximum exposure to a Title VII or a non-Title VII treatment during the pretest-to-posttest interval. Presence during a given time point (i.e., fall or spring) was operationally defined for each student as the presence of at least one correct item response on any of the achievement tests administered by the Impact Study.

Table VI-B-1 shows the numbers of Title VII and non-Title VII students (by grade) who were present in participating classrooms during both fall 1975 and spring 1976, as well as the numbers of students who were not present all school year. As indicated, about two-thirds (66.3%) of all non-Title VII students (across all five grades) and about three-fourths (72.1%) of all Title VII students tested during the 1975-76 school year were present during both fall 1975 and spring 1976. It is important to note, however, that the losses of data implied by these figures are not those attributable to what is usually called student attrition. This is because the students present in the Impact Study data base included all students from whom data were collected either during fall 1975 or during spring 1976. Thus, the totals shown in Table VI-B-1 reflect the number of students present in participating classrooms as of fall 1975 plus the number of new students who entered these classrooms at midyear.

Rather than being based upon all students who were members of a classroom sometime during a given school year, attrition is usually computed on the basis of the number of students who were present in the fall at pretest time and who did not remain until the spring posttest. Title VII/

TABLE VI-B-1

Number of Students Present in Impact Study Data Base[a]

Grade	Non-Title VII					Title VII					
	Students Present During Fall 1975 and Spring 1976		Students Present During Fall 1975 Only or Spring 1976 Only		Total Non-Title VII	Students Present During Fall 1975 and Spring 1976		Students Present During Fall 1975 Only or Spring 1976 Only		Total Title VII	Totals by Grade
	Number	Percent of Non-Title VII	Number	Percent of Non-Title VII		Number	Percent of Title VII	Number	Percent of Title VII		
2	496	59.6	336	40.4	832[b]	1056	68.8	480	31.2	1536[c]	2368
3	749	68.2	349	31.8	1098[b]	1370	74.0	481	26.0	1851[c]	2949
4	792	73.1	291	26.9	1083[b]	1288	73.7	460	26.3	1748[c]	2831
5	265	64.5	146	35.5	411	1058	76.1	332	23.9	1390	1801
6	158	55.4	127	44.6	285	539	64.2	300	35.8	839	1124
Totals Across Grades	2460	66.3	1249	33.7	3709[b]	5311	72.1	2053	27.9	7364[c]	11073[b,c]

[a] The number of students present during fall 1975 only, spring 1976 only, and both fall 1975 and spring 1976 are shown in Appendix VI-B, Tables VI-B-2a through VI-B-6a.

[b] These totals include 49, 52, and 55 non-Title VII students in grades 2, 3, and 4 (respectively) who were members of the one site deleted from the fall-to-spring growth analyses because of an unavoidable delay in pretesting.

[c] These totals include 52, 50, and 51 Title VII students in grades 2, 3, and 4 (respectively) who were members of the one site deleted from the fall-to-spring growth analyses because of an unavoidable delay in pretesting.

non-Title VII differences with respect to rates of student attrition are discussed next.

Title VII/Non-Title VII Differences in Rates of Student Attrition

As noted in the preceding section, the numbers and percentages shown in Table VI-B-1 do not index the average amount of student attrition in the Title VII and non-Title VII samples because the total number of participating students included those who first entered the sample during spring 1976. An additional factor was that these totals also included 156 non-Title VII students and 153 Title VII students who were members of the one site that was deleted from the growth analyses due to (1) delayed administration of the pretest and (2) lack of posttest data. Since these students were pretested but not posttested, they added to the total number of students in the data base but were classified as students who were no longer present at posttest time. Tables VI-B-2a through VI-B-6a in Appendix VI-B were created so that the numbers of students leaving or entering the sample at midyear could be identified. Table VI-B-1a, also in Appendix VI-B, shows the number of students in the site who were not posttested and were deleted from the growth analyses. Using these tables, it is possible to compute the percent of Title VII and non-Title VII students in the thirty-seven sites of interest who were enrolled in a participating classroom as of fall 1975 and who presumably remained there during the major portion of the school year (i.e., until the posttest was administered).

The results, shown in Table VI-B-2, indicate that Title VII students tended to be a slightly more stable group of students than non-Title VII students. Looking at the totals (across grades), about 85% of the Title VII students sampled in fall 1975 were also present in participating classrooms in spring 1976. However, only about 77% of the non-Title VII students present in fall 1975 were still present in participating classrooms in spring 1976. Grade level Title VII/non-Title VII differences in amount of attrition fell into two groups, (1) small differences such as those for grades 3 and 4 and (2) moderate differences such as those for grades 2, 5, and 6.

These analyses were undertaken to determine if there were dramatic differences in rates of attrition for the Title VII and the non-Title VII

TABLE VI-B-2

Number and Percent of Students Present in Participating Classrooms in 37 Sites During Fall 1975 Who Were Also Present During Spring 1976

Grade	Non-Title VII Students			Title VII Students		
	Number of Students Present in Fall 1975[a]	Students Remaining in Spring 1976[b]		Number of Students Present in Fall 1975[a]	Students Remaining in Spring 1976[b]	
		Number	Percent		Number	Percent
2	692	496	71.7	1273	1056	83.0
3	939	749	79.8	1581	1370	86.7
4	948	792	83.5	1498	1288	86.0
5	370	265	71.6	1191	1058	88.9
6	263	158	60.1	689	539	78.2
Total Across Grades	3212	2460	76.6	6232	5311	85.2

[a] Numbers in these columns were computed by subtracting the number of students in the one site deleted from the growth analyses (see Appendix VI-B, Table VI-B-1a) from the number of students who were present in the data base as of fall 1975 (see Appendix VI-B, Tables VI-B-2a through VI-B-6a). Students present in fall 1975 include students present during both fall and spring plus those present just during the spring.

[b] In these columns are the numbers of students who were present during both fall 1975 and spring 1976 (see Table VI-B-1).

students sampled by the Impact Study in fall 1975. If large differences had been found, they would have suggested that, on the average across all students, the Title VII and non-Title VII students sampled by the Impact Study might not be comparable because they differed so greatly in terms of mobility. Dramatic differences in rates of attrition did not occur. However, these analyses and those based upon Table VI-B-1 (discussed in the previous section) did indicate that Title VII students were a slightly more stable group of students than were the non-Title VII students sampled.[1]

Student Background Differences Among Impact Analysis Samples

The overall similarity of the Title VII and non-Title VII students who were selected for the growth analyses was also evaluated with respect to a number of background factors[2] including (1) ethnic group membership, (2) sex, (3) judged language dominance, (4) age, (5) years in bilingual education classes, (6) basis for presence in a bilingual project class, and (7) first school year in the continental United States. Cross-tabulations of these characteristics with Title VII/non-Title VII group membership for each grade have been placed in Appendix VI-B, Tables VI-B-7a through VI-B-41a. These tables were constructed so that the degree of overall similarity between the Title VII and non-Title VII students included in the impact analyses from each grade (i.e., those who were present during both fall 1975 and spring 1976) could be assessed. The major conclusions suggested by these tables are as follows:

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[1] Analyses summarized in Appendix IV-C examined some of the characteristics of (1) students present during both fall 1975 and spring 1976 (and included in the analyses of growth in achievement and attitude) and (2) students present during fall 1975 only or spring 1976 only (and deleted from the growth analyses).

[2] All information was obtained from each student's teacher on the teacher-completed portion of the Student Questionnaire.

Ethnic group membership.[3]

- Hispanic students. Two-thirds or more of the Hispanic students sampled by the Impact Study at each grade level and included in the impact analyses were enrolled in Title VII-supported classrooms. The number of Title VII Hispanic students was fairly large (4,096 students across all grades), ranging from 400 students in grade 6 to 1,031 students in grade 3. On the other hand, the number of non-Title VII Hispanic students included in the growth analyses was somewhat smaller (1,622 students across all grades), ranging from 76 students in grade 6 to 551 students in grade 4. Although the proportion of Title VII students who were Hispanic was higher than the proportion of non-Title VII students who were Hispanic, the proportions were not dramatically different, especially in grades 2, 3, and 4. Title VII Hispanic students were found in differing numbers of sites depending on the particular grade. The number of different sites ranged from 18 (grade 6) to 35 (grade 3). Non-Title VII Hispanic students were located in as few as five sites (grade 6) and in as many as fifteen sites (grade 3).

- White Non-Hispanic students. The number of white non-Hispanic students (the "Other White" category in Appendix VI-B, Tables VI-B-7a through VI-B-11a) was small, ranging from 46 students (non-Title VII, grade 6) to 135 students (non-Title VII, grade 4). In general, the number of white non-Hispanic students in the Title VII group and the number in the non-Title VII comparison group were similar for a given grade.

  Title VII white non-Hispanic students were located in from thirteen (grade 6) to twenty-four (grade 3) different sites, depending upon the grade level involved. Non-Title VII white non-Hispanic students were found in as few as three sites (grade 6) and in as many as fourteen sites (grade 3).

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[3] Numbers and proportions of students of different ethnic background are summarized later in Table VI-D-1. Site membership of Title VII and non-Title VII students of different ethnic backgrounds is summarized later in Table VI-D-2.

- Black students. Although the total number of black students was small (574), the numbers enrolled in Title VII (319) and in non-Title VII (255) were not vastly different. Black students were located in as few as seven Title VII projects (grade 6) and in as many as eighteen Title VII projects (grade 3), depending on the grade level involved. Non-Title VII black students were members of from four sites (grade 6) to eight sites (grade 4).

- Asian and American Indian students. The number of Asian and American Indian students was exceedingly small (74 and 34 students respectively). Numbers of such students ranged from no students (Asian, Title VII, grade 6) to 21 students (Asian, non-Title VII, grade 2). Because of such small numbers of students, the number of sites in which they were located was also small, ranging from no sites (Asian, Title VII grade 6) to six sites (Asian, Title VII, grade 4).

- Other students. Students classified as "other" on the teacher-completed Student Questionnaire item inquiring about specific ethnic group membership were usually members of Title VII classrooms (382 Title VII students versus 48 non-Title VII students). Since the questionnaire item asking about ethnic group membership had separate alternatives for Hispanic country of origin, it was possible that students in this "other" group were, in fact, of mixed Hispanic background. Title VII students were located in from as few as three sites (grade 6) to as many as sixteen sites, depending upon the particular grade. Non-Title VII students, on the other hand, were located in from no sites (grade 6) to four sites (grade 3).

These results indicate that the numbers of Title VII and non-Title VII Hispanic students included in the analyses of fall 1975 to spring 1976 growth in achievement and attitude were large and that such students were located in a variety of different sites. Although there were more than twice as many Title VII Hispanic students (4,096) as non-Title VII Hispanic students (1,622), the total number of Title VII students included in the growth analyses (5,311) across all grades was more than twice the number of all non-Title VII students (2,460). Thus, in grades 2, 3, and 4 Hispanic students were usually a fairly constant proportion of all Title VII or all non-Title VII students included in the impact analyses reported in this chapter.

Numbers of white non-Hispanic, black, Asian, American Indian, and other students were small. Title VII students belonging to these ethnic groups seemed to be located in a reasonable number of different sites, especially in grades 2 through 5. However, except for white non-Hispanic students in grades 2, 3, and 4, non-Title VII students who were not of Hispanic background were usually located in only a small number of different sites.

Sex. Except for the sixth grade, there were proportionately more girls in the Title VII groups than in the non-Title VII comparison groups. Differences in these proportions, however, were very small and were considered trivial.

Judged language dominance. Almost all students in non-Title VII classrooms and the majority of students in Title VII classrooms were given test and questionnaire materials appropriate for students judged to be English monolingual or bilingual English-dominant by their teachers. However, 20% to 40% of the Title VII students (depending upon the grade) were assigned test and questionnaire materials designed for Spanish monolingual or Spanish-dominant bilingual students.

Age. The proportions of students of different ages were reasonably comparable in the Title VII and non-Title VII comparison groups at all grade levels.

Years in bilingual education classes. Title VII and non-Title VII groups at all grade levels differed greatly with respect to the distribution of number of years in bilingual education classes as estimated by each student's teacher in fall 1975. For example, almost 70% of all Title VII students in the second grade had been enrolled in bilingual education classes for two or three years. Tables VI-B-3 and VI-B-4

TABLE VI-B-3

Summary[a] of the Years in Bilingual Education Classes for Title VII Students Included in the Fall 1975 to Spring 1976 Impact Analyses

Grade	Years of Previous Experience[a]												Missing Data	Total[b]
	One or Less		Two		Three		Four		Five		Six			
	N	%	N	%	N	%	N	%	N	%	N	%		
2	292	28.2	414	40.0	302	29.2	26	2.5	0	0.0	0	0.0	22	1056
3	288	21.8	388	29.4	479	36.3	160	12.1	4	0.3	0	0.0	51	1370
4	273	22.3	183	15.0	347	28.4	347	28.4	69	5.6	3	0.2	66	1288
5	196	19.5	211	21.0	190	18.9	221	22.0	185	18.4	1	0.1	54	1058
6	97	23.6	72	17.5	77	18.7	85	20.7	41	10.0	39	9.5	128	539

[a] Percentages computed on the basis of students for whom data were available.

[b] Total number of students, including those for whom years in bilingual education classes was missing. These totals were not used in the computation of the percentages (see footnote *a* above).

TABLE VI-B-4

Summary of the Years in Bilingual Education Classes for Non-Title VII Students Included in the Fall 1975 to Spring 1976 Impact Analyses

Grade	Years of Previous Experience[a]												Missing Data	Total
	One or Less		Two		Three		Four		Five		Six			
	N	%	N	%	N	%	N	%	N	%	N	%		
2	105	72.4	40	27.6	0	0.0	0	0.0	0	0.0	0	0.0	351	496
3	141	77.5	14	7.7	27	14.8	0	0.0	0	0.0	0	0.0	567	749
4	205	89.9	7	3.1	14	6.1	2	0.9	0	0.0	0	0.0	564	792
5	66	86.8	3	3.9	3	3.9	4	5.3	0	0.0	0	0.0	189	265
6	30	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	30	60

[a] Percentages computed on the basis of students for whom data were available.

[b] Total number of students, including those for whom years in bilingual education classes was missing. These totals were not used in the computation of the percentages (see footnote *a* above).

provide a brief summary of the experience in bilingual education classes for the Title VII and non-Title VII students included in the analyses of growth in achievement and attitude. Table VI-B-3 shows that Title VII students in these analyses were quite experienced in terms of bilingual education. Non-Title VII students at all grade levels, on the other hand, usually had been exposed to one or fewer years of bilingual education classes prior to fall 1975. There was, however, a great deal of missing data for non-Title VII students. This possibly occurred because such information may not have been available on the school records for non-Title VII students.

Basis for presence in a bilingual project class. About 20% to 30% (depending on grade) of the Title VII students included in the impact analyses described in this chapter were present in a Title VII project classroom because of their need for English instruction. Between 34% and 44% were there because of parental request. This information was provided by each student's teacher.

First school year in continental United States. The 1975-76 school year was the first school year in the continental United States for very few of the Title VII and non-Title VII comparison students in the impact analyses. Most newly arrived students, however, were enrolled in Title VII projects.

C. What Criterion Measures Were Used in Evaluating the Impact of the ESEA Title VII Spanish/English Bilingual Education Program?

In keeping with federal legislation and with guidelines received from the U.S. Office of Education, the primary criteria with which Title VII impact was evaluated were English Language Arts and a subject content area (Mathematics). A measure of Spanish Reading and an index of school-related attitudes were also included. The specific instruments and tests from which these criterion scores were derived for each judged language dominance group of students are described fully in Appendix IV-A, Table VI-A-1a. Table IV-A-1 in Chapter IV, however, provides a brief summary review of the criteria by which Title VII program impact was evaluated for this interim report.

D. What Subsamples of Students Were Analyzed Separately?

Analyses by Ethnic Groups Within Grade Levels

Separate analyses were conducted for each criterion measure (see Table IV-B-1 in Chapter IV) for each of four ethnic groups within each of the five grade levels sampled by the Impact Study. Analyses were stratified in this way so that comparisons between Title VII and non-Title VII students would involve comparing the achievement growth and attitude change of students from the same ethnic group. For purposes of the impact analyses reported here, students were placed in one of four ethnic group strata--Hispanic, White Non-Hispanic, Black, and Other. The last category, ("Other"), included all Asian and American Indian students, all students for whom ethnic group membership was coded as "Other on the Student Questionnaire (teacher-completed version), and all students for whom ethnic group information was not reported. Tables VI-D-1 and VI-D-2 summarize the number and site distribution of the students in each of these four ethnic group strata.

Hispanic students. Tables VI-D-1 and VI-D-2 indicate that it is reasonable to assume that average Title VII/non-Title VII differences observed for Hispanic students in grades 2, 3, and 4 are a valid indication of general program effects because the numbers of Hispanic students and their location in a variety of projects/sites would tend to minimize the possibility that Title VII/non-Title VII differences could be due to a small number of unusually effective or unusually ineffective teachers, schools, or projects. Although the number and project distribution of Title VII Hispanic fifth- and sixth-graders were such that their data would provide sound estimates of program level trends, the small number of non-Title VII Hispanic students in grades 5 and 6 would tend to limit the generality of any analyses in which Title VII HIspanic students were compared with non-Title VII Hispanic students.

White non-Hispanic, black, and other students. The numbers of white non-Hispanic, black, and other students were small. Because of their distribution in a variety of projects, however, it seems reasonable to conclude that the data from Title VII students in grades 2 through 4 will provide adequate estimates of program level trends for these kinds of

TABLE VI-D-1

Number of Students Present During Both Fall 1975 and Spring 1976 in Four Ethnic Groups

Grade	Hispanic			White Non-Hispanic			Black			Other			TOTAL (Across Ethnic Groups)
	Non-Title VII	Title VII	Total	Non-Title VII	Title VII	Total	Non-Title VII	Title VII	Total	Non-Title VII	Title VII	Total	
2	321	813	1134	92	79	171	50	74	124	33	90	123	1552
3	520	1031	1551	125	132	257	61	89	150	43	118	161	2119
4	551	1025	1576	135	115	250	71	85	156	35	63	98	2080
5	154	827	981	60	73	133	42	51	93	9	107	116	1323
6	76	400	476	46	67	113	31	20	51	5	52	57	697
TOTAL (ACROSS GRADES)	1622	4096	5718	458	466	924	255	319	574	125	430	555	7771

TABLE VI-D-2

Number of Sites/Projects in Which Title VII and Non-Title VII[a] Students Were Located

Grade	Hispanic			White Non-Hispanic			Black			Other		
	Number of Sites/Projects			Number of Sites/Projects			Number of Sites/Projects			Number of Sites/Projects		
	Total	With 5 or More Students	With 4 or Fewer Students	Total	With 5 or More Students	With 4 or Fewer Students	Total	With 5 or More Students	With 4 or Fewer Students	Total	With 5 or More Students	With 4 or Fewer Students
2	29 (12)	29 (10)	0 (2)	17 (9)	5 (7)	12 (2)	14 (7)	6 (3)	8 (4)	16 (7)	6 (3)	10 (4)
3	35 (15)	35 (14)	0 (1)	24 (14)	13 (10)	11 (4)	18 (7)	5 (4)	13 (3)	19 (7)	6 (2)	13 (5)
4	34 (14)	34 (12)	0 (2)	18 (13)	8 (9)	10 (4)	17 (8)	6 (5)	11 (3)	18 (5)	5 (1)	13 (4)
5	27 (7)	26 (7)	1 (0)	14 (5)	6 (3)	8 (2)	11 (4)	3 (2)	8 (2)	14 (3)	6 (1)	7 (2)
6	18 (5)	18 (4)	0 (1)	13 (3)	8 (2)	5 (1)	7 (4)	2 (2)	5 (2)	6 (3)	1 (0)	5 (3)

[a] Numbers of non-Title VII sites/projects are in parentheses.

students. However, with the possible exception of white non-Hispanic students in grades 2, 3, and 4, the small number of sites in which the non-Title VII students in these ethnic groups were located probably limits the usefulness of the non-Title VII samples as comparison groups in any tests of general program impact.

Analyses by Judged Language Dominance Groups Within Grade Levels

It should be noted that the Impact Study's original analysis plans had specified the stratification of comparative analyses by judged language dominance group (i.e., separate analyses for groups of students who completed similar combinations of test and questionnaire instruments). However, this approach was not feasible in view of the small number of students in non-Title VII comparison classrooms who were given test/questionnaires developed for Spanish monolingual students or for Spanish-dominant bilingual students. As shown in detail in Tables VI-B-17a through VI-B-21a in Appendix VI-B, the number of non-Title VII students who were judged to be Spanish monolingual was small at all grade levels, ranging from a high of twenty-nine students (in grade 4) to a low of two students (grade 6). Such small numbers of comparison students did not permit meaningful comparative analyses. Nevertheless, AIR project staff felt that the achievement growth and attitude changes of students specifically judged to be of limited English-speaking ability should be included in the analyses discussed in this report.

To determine the distribution of Spanish monolingual, Spanish-dominant bilingual, English-dominant bilingual, and English monolingual students in the four ethnic group strata analyzed, a crosstabulation of judged language dominance by ethnic group was prepared. Since these variables plus Title VII/non-Title VII group membership, grade, and status in the data base (i.e., presence during both fall 1975 and spring 1976; or, presence during fall 1975 only or spring 1976 only) were the primary stratification variables discussed in this chapter, they were also included in this detailed crosstabulation. As shown in Table VI-D-1a and VI-D-2a in Appendix VI-D, almost all students judged to be Spanish monolingual by their teachers were Hispanic and were enrolled in Title VII classrooms. For this reason, it was decided that (1) the Hispanic students in each analysis sample would be further stratified by judged language dominance and (2) pretest-to posttest growth would be computed and examined for the Title VII students judged to be of limited English-speaking ability.

E. What Approach Was Used to Integrate the Results from the Different Grades and Ethnic Group Strata Analyzed?

Because of the large number of analyses (equal to the number of combinations of five outcome or criterion variables, four ethnic group strata, and five grade levels), one major concern was how best to detect meaningful and reliable trends in the results. It was decided that the existence of systematic and meaningful trends across grade levels for similar kinds of students (i.e., those belonging to the same ethnic group) would provide the most convincing evidence of program impact. This approach was selected for the following reasons:

- Results ordered by grade level would be ordered by maturational level (i.e., age), by years of school attended, and by years of possible exposure to bilingual education classes in previous years
- The site composition of adjacent grades of students was usually fairly similar

Thus, findings for adjacent grades would involve trends for different groups of students (of the same ethnic background) who were more alike than any other pair of groups with respect to (1) age, (2) possible prior exposure to education and bilingual education, and (3) the kinds of treatments present in the particular projects/sites of which they were members. To facilitate the detection of trends, results of most statistical procedures were arranged in summary tables in which findings for adjacent grades were placed in adjacent rows and/or columns. These were then inspected for trends.

F. How Similar Were the Title VII Students to the Non-Title VII Students with Whom They Were Compared?

The reasonableness of an analytic approach in which the growth in achievement or changes in attitude of Title VII students is compared with that of non-Title VII students is based upon the assumption that the growth (or changes) observed for the non-Title VII group provides an unbiased estimate of the growth that would have been observed for the Title VII group had the students in the Title VII group not been exposed to a Title VII project. In short, the non-Title VII group provides a no-Title VII-treatment expectation against which the performance of Title VII recipients is evaluated. Similarly, when the performance of Title VII students is compared with that of students at similar pretest levels in the Comprehensive Tests of Basic Skills (CTBS) norming sample, the usefulness of the comparison is dependent on the extent to which the norm sample provides a reasonable no-Title VII-treatment expectation for the Title VII students sampled[1]. Since the data analysis approach of the Impact Study was to compare the performance of Title VII students with that of participating non-Title VII students (for the achievement and attitudinal outcomes) and with that of the CTBS norm sample (for CTBS achievement outcomes), it was important to consider the extent to which the non-Title VII students in these analyses and the CTBS norming sample provided reasonable no-Title VII-treatment estimates. Issues related to these two comparative approaches are contained in the next two sections.

Title VII Students and the CTBS Norm Sample

The evaluative strategy underlying the Title VII/CTBS norm sample comparisons was that the Title VII group's average posttest score should be at the same relative position with respect to national norms as was its pretest, if there was no Title VII treatment effect. However, there are three key issues that need to be considered in using this approach. They are discussed separately in the follwing three subsections.

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[1] Note that this use of normative data is not the same as that of evaluating the achievement level of Title VII recipients relative to a national sample of students in schools in the United States. The validity of the norms for assessing expected achievement levels with respect to students in schools in the Unites States rests on the sampling procedures used by the test developer. CTBS norms are probably adequate in this regard since they were "based upon a probability sample of the entire national school population" (CTB/McGraw-Hill, 1974b, p. 5).

The problem of empirical versus projected norms. It is highly desirable that the norms used for converting pretest and posttest group means into national percentiles be empirically based; that is, it is important that norms should not be the result of interpolating between or extrapolating beyond empirical normative testing dates. The reason for this is that such interpolation and extrapolation are usually based upon the assumptions that growth in achievement is linear (i.e., the rate of growth is uniform) across months within the same school year and that one month of growth occurs during the summer between grade levels. These assumptions probably are not tenable at the beginning of each school year because the achievement level of most students is likely to increase less rapidly during the summer than was assumed in computing interpolated norms. In fact, it is not unusual for achievement levels to actually decrease over the summer months. Since the "beginning of grade' norms for the CTBS were developed by interpolating from the test scores of adjacent grade levels of students tested during the spring (mid-April), it was necessary to consider if using these norms for evaluating the fall test performance of students participating in the Impact Study was appropriate.

Estimating expected posttest performance from obtained pretest means and CTBS norms was considered feasible because (1) in most cases, at the beginning of each school year students quickly relearn what they have forgotten during the summer months; (2) the assumptions involved in estimating norms through interpolation are as least somewhat more reasonable after this period of rapid relearning at the beginning of each school year, and (3) students in the Impact Study were tested after they had been in school for at least six to eight weeks.

Testing dates. Table VI-F-1 shows the average month of testing for all students who were present during both fall 1975 and spring 1976. Since the CTBS norms for the "beginning of grade" were designed to be appropriate for testing conducted at month 1.0 (the middle of October), it would appear that Impact Study participants were pretested about four weeks after the CTBS pretest norm date. Table VI-F-1 also shows that Impact Study participants were posttested from two to three weeks later than the CTBS norm sample. The fact that the Impact Study's administration of pretests and posttests were similarly delayed relative to the norm sample testing dates suggests that use of norm-referenced analyses was not unreasonable (at least from the standpoint of pretest and posttest dates).

Comparability of Title VII and CTBS norm sample students. An undoubtedly important consideration associated with use of norm-referenced comparisons in the Impact Study was the degree to which the norm sample provided an adequate no-Title VII-treatment expectation for the particular population of students served by the program. While the norm sample was selected to be representative of students in schools in the United States, students in Title VII projects do comprise an identifiable subpopulation of these students whose rate of growth in achievement may differ from that of norm sample students scoring at the same initial achievement level (i.e., pretest level). Since the atrributes of students in the norm sample who scored at each different percentile rank are not known, one must speculate that it is unlikely that they are as homogeneous a group as are the students enrolled in Title VII projects. This being the case, is it possible to predict how Title VII/norm sample growth rates should differ, prior to looking at the actual results obtained by the Impact Study? Two contradictory expectations seem relevant. First, cultural differences in approaches to achievement testing and problems associated with learning a second language that may not be the dominant language in a student's non-school environment would suggest that growth rates in English Language Arts for most Title VII students would be less than that for the norm sample. The language acquisition aspects of this argument are somewhat less compelling with regard to Mathematics achievement, especially those skill areas requiring little knowledge of English (i.e., computational skills). On the other hand, it also seems reasonable to assume that the average student with limited skills in English possesses the same aptitude or potential for achievement as the average student in the norm sample. However, the typical student of limited English-speaking ability will score low on a test of achievement in English

TABLE VI-F-1

Average Month of Fall and Spring Testing
Based Upon the Number of Students Present in the Impact Study
During Both Fall (1975) and Spring (1976).

Grade	Number of Students Present During Fall and Spring	Average Month of Testing	
		Fall	Spring
2	1552	2.12	7.66
3	2119	2.12	7.70
4	2080	2.12	7.73
5	1323	2.15	7.58
6	697	2.16	7.50
CTBS Norm Sample		1.00[a]	7.00

[a] Norms computed by interpolation.

Language Arts, that is, low relative to his/her potential or aptitude for growth. It is likely, then, that the growth rates of such students should exceed that of norm sample students who obtained very low achievement scores.

In the absence of empirical data assessing individual aptitude, it is difficult to decide whether or not the growth rates for the kinds of students enrolled in Title VII projects should, assuming no Title VII treatment, be either greater than or less than that shown by the norm sample. For at least two reasons, however, it does seem reasonable that the growth rate should be greater than that expected from the norm sample for groups of students whose mean achievement is extremely low on the pretest:

- Assuming that a low percentile rank on a test of English Language Arts achievement is a function both of aptitude and exposure to English, students who score low only because of lack of exposure should improve their English skills more rapidly than students whose depressed performance occurred because of their lack of aptitude. Students who participate in Title VII projects, in general, are probably exposed to less English (even nonstandard English) than were the students at similar pretest levels in the CTBS standardization sample since that sample could be expected to contain a much smaller proportion of students with a Spanish-speaking background. Thus, on the average, poor performance on tests of English skills for Impact Study participants was more likely to be due to lack of exposure to English than to lack of aptitude for achievement (at least relative to norm sample students scoring at the same pretest level).
- It can be shown that in the absence of any treatment effect whatsoever the mean of a group of students who score at at one end of a distribution of test scores on pretest will "regress" toward the mean of the distribution on posttest simply because of test unreliability, floor and ceiling effects, or lack of a perfect pretest/posttest correlation. Since Title VII students, as a group, were expected to score low on tests of English Language

Arts, such regression-to-the-mean artifacts would tend to inflate the gains demonstrated by Impact Study students (relative to the norms).

Average Differences Among Title VII and Non-Title VII Analysis Samples

Evaluating the impact of Title VII on individual students by comparing their performance to that of a group of students not exposed to Title VII projects is dependent upon the accuracy of the no-Title VII-treatment expectation provided by the comparison group. Highly controlled experimental studies more or less guarantee that the composition of the groups compared is equivalent by randomly assigning students to treatment conditions. However, in most large-scale evaluations where randomization is not feasible, it is usually necessary to assume that the greater the similarity between the groups compared (at least in educationally relevant ways), the greater the appropriateness of the analysis and the more accurate the estimate of program impact. It was crucial, therefore, that the similarity of the Title VII and non-Title VII groups compared with one another should be evaluated because the Impact Study was a survey research project in which (1) naturally occurring groups of Title VII students were sampled and (2) the non-Title VII students sampled were members of classrooms identified by each of the sites as containing students they thought were similar to those in their Title VII project.

An earlier section of this chapter (Section B) contained an overview of some of the major differences between all of the Title VII and the non-Title VII students sampled by the Impace Study and included in the impact analyses (because of their presence in a participating classroom during both fall 1975 and spring 1976). The analyses reported here, unlike the Section B analyses, were those that examined Title VII/non-Title VII group differences *separately by grade level and by ethnic group*. These preliminary analyses were undertaken so that the similarity of the student groups actually compared could be evaluated and taken into account in interpreting the findings regarding program impact. The Title VII/non-Title VII differences that were examined included the following:

- Differences on such background variables as sex, judged language dominance, age, years in bilingual education classes, basis for presence in a bilingual project class, first school year in the continental United States, and absenteeism
- Differences in average initial achievement level (i.e., pretest)
- Differences in average socioeconomic status
- Differences in the rate of fall-to-spring growth in achievement and change in attitude

Title VII/non-Title VII analysis sample differences on various background characteristics. Rather than describe the characteristics of Title VII and non-Title VII students in all twenty analysis samples involved in the analyses of fall-to-spring growth (four ethnic groups in each of five grade levels), project staff decided to limit the current discussion to the attributes of Hispanic students only. This group was selected because the majority of the students sampled by the Impact Study were Hispanic and because the large number of Hispanic students and their distribution across sites would permit the testing of meaningful program-level trends in the data they provided. Tables VI-F-1a through VI-F-31a in Appendix VI-F contain the crosstabulation of each of seven characteristics of interest by treatment group (Title VII/non-Title VII membership) for Hispanic students in grades 2 through 6. Examination of these tables suggested the following conclusions regarding the similarity of the Title VII and non-Title VII Hispanic students compared with each other in the analysis of fall-to-spring growth.

- Judged language dominance. Almost all non-Title VII Hispanic students in grades 2, 3, 4, and 5 (85%, 85%, 85%, and 79%, respectively) were given tests and questionnaires designed for students judged to be English monolingual by their teachers. However, only about 57% of all non-Title VII students in grade 6 were judged to be English monolingual with some 41% being classified as Spanish-dominant bilingual. The majority of all Hispanic Title VII students were classified as English monolingual, or English-dominant bilingual. Almost all the Spanish monolingual students that were sampled were members of Title VII classrooms. Lastly, the number and proportion of Title VII Hispanic students who were judged to be Spanish monolingual decreased with each higher grade level.

- Years in bilingual education classes. Two-thirds or more of the non-Title VII Hispanic students had spent one year or less in bilingual education classes. Most Title VII Hispanic students, however, had considerable experience in bilingual education classes--72% or more of the students in grades 2 through 6 had two or more years of prior experience with bilingual education classes.

- Basis for presence in bilingual project classes. About 20% to 30% (depending on grade) of the Hispanic students enrolled in Title VII were in project classes because of their need for English instruction (limited proficiency in English). Between 27% and 40% were there because of parental request. This information was provided by each student's teacher.

- Age. Title VII and non-Title VII Hispanic students at all grade levels were fairly similar with respect to average age.

- Sex. No large and consistent (across-grade) Title VII/non-Title VII differences in proportions of boys or girls were present.

- First school year in the continental United States. There were only 132 Hispanic students at all grade levels for whom the 1975-76 school year was their first school year in the continental United States. Most of these students were members of Title VII projects.

- Absenteeism. In general, students missed between nine and thirteen days of school (on the average) during the pretest/posttest interval. However, on the average, Hispanic

Title VII students were absent from school about one more day than were Hispanic non-Title VII students in grades 2 through 5. In grade 6, the reverse was true. These Title VII/non-Title VII differences were considered trivial.

To summarize the overall differences among the Title VII and non-Title VII Hispanic students analyzed here, it would appear that the only meaningful differences were with respect to judged language dominance, years in bilingual education classes, and first school year in the continental United States. Almost all Hispanic students who took test and questionnaire materials designed for Spanish monolinguals were members of Title VII projects. However, the majority of all Hispanic students (Title VII and non-Title VII alike) were given materials appropriate for English monolingual or English-dominant bilingual students. Hispanic students enrolled in Title VII projects seemed to have had substantially more prior experience in bilingual education classes than non-Title VII Hispanic students. Newly arrived students were usually members of Title VII classrooms, but the number of such students was quite small.

Title VII/non-Title VII analysis sample differences in average pretest and socioeconomic status. An assessment of the degree of association between Title VII/non-Title VII group membership and pretest score level was necessary because one of the most reasonable alternative explanations for any Title VII/non-Title VII differences in posttest performance was that the groups had differed with respect to level of achievement prior to the Title VII treatment for the 1975-76 school year. Socioeconomic status differences between the Title VII and the non-Title VII student groups were analyzed because socioeconomic status is a student home background characteristic that the school cannot influence directly but which, in the absence of any special educational treatment is usually related to achievement test performance.

It is possible to index the magnitude of the mean difference between a given Title VII analysis sample and its associated non-Title VII comparison sample by computing the correlation between treatment group membership (Title VII/non-Title VII) and the particular variable of interest. Because of the manner in which group membership was coded,[1] if the mean for Title VII students was higher than that for non-Title VII students, the correlation was positive; if the non-Title VII group had the higher mean, the correlation was negative. The magnitude of this kind of correlation coefficient, called a point-biserial correlation, is dependent upon the relative size of the Title VII and non-Title VII groups and their mean difference expressed in standard deviation units.

Table VI-F-2, VI-F-3, VI-F-4, and VI-F-5 show the degree of association (i.e., zero-order point-biserial correlation) of Title VII/non-Title VII group membership with pretest, socioeconomic status, and posttest within each ethnic group stratum for each of the four primary criterion variables[2]--CTBS Reading Total, Reading Vocabulary, and Mathematics Computation, Expanded Standard Scores, and Attitude Toward School. As with all the analyses of program impact, the students included in the analyses for a particular criterion variable here were only those students who (1) were present during both fall 1975 and spring 1976 and (2) had both a pretest and posttest score for a given criterion variable. As noted in Chapter IV, Section B, there were no missing data in the analysis files for the socioeconomic status index because of our procedure of replacing missing SES data with the classroom, school, or site mean.

Inspection of the pattern of statistically significant correlations ($p \leq .05$, two-tailed) shown in Tables VI-F-2 through VI-F-5 supports the following overall conclusions regarding (1) the confounding of pretest and socioeconomic status differences with participation or non-participation in Title VII and (2) the reasonableness of evaluating Title VII students on the basis of the performance of non-Title VII students.

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[1] Treatment group membership was a binary-coded variable that equaled 2 for all Title VII students and 1 for all non-Title VII students.

[2] Similar correlations for the Spanish Reading criterion variable have not been reported here because the number of non-Title VII comparison students completing the Prueba de Lectura (those judged to be Spanish monolingual or Spanish-dominant bilingual) was so small that Title VII/non-Title VII comparative analyses were not feasible (see Appendix VI-B, Tables VI-B-17a through VI-G-21a).

TABLE VI-F-2

Zero-Order Correlations Between Title VII/Non-Title VII Group Membership[a] and Pretest, Socioeconomic Status (SES), and Posttest--Hispanic Students

Grade	Outcome Variable											
	CTBS Reading Total Analysis Correlations			CTBS Reading Vocabulary Analysis Correlations			CTBS Math Computation Analysis Correlations			Attitude Toward School Analysis Correlations		
	Treatment with			Treatment with			Treatment with			Treatment with		
	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest
2	-.05	-.06	-.12** (1019)[b]	-.03	-.06	-.12** (1015)	-.05	-.05	.03 (1019)	.05	-.05	.06 (1010)
3	-.05	.08**	-.12** (1374)	-.04	.08**	-.10** (1436)	-.03	.07**	.01 (1404)	-.01	.07**	.01 (1429)
4	-.02	.00	.05 (1456)	-.01	.00	.07** (1478)	.06*	-.02	.08** (1414)	.03	.00	.04 (1453)
5	-.09**	.08*	-.11** (875)	-.08*	.07*	-.07* (893)	-.10**	.08*	-.02 (868)	.05	.07*	.11** (882)
6	-.10*	.08	-.16** (409)	-.07	.07	-.04 (429)	.00	.09	.07 (414)	-.03	.09	.11* (414)

[a] Correlations between a continuous variable and a binary-coded variable like Title VII/Non-Title VII group membership are called point-biserial correlations. Treatment group membership was coded Title VII=2, non-Title VII=1.

[b] The number of students shown in parentheses is equal to the number of Hispanic students who were present in participating classrooms during both fall 1975 and spring 1976 and who had a pretest and posttest score for a particular test. The difference between this number and that shown in Table VI-D-I (presented earlier) is the number of students presumably present all school year who did not have a particular pretest and posttest score.

LEGEND:
* p≤.05 (two-tailed t test)
**p≤.01 (two-tailed t test)

TABLE VI-F-3

Zero-Order Correlations Between Title VII/Non-Title VII Group Membership[a] and Pretest, Socioeconomic Status (SES), and Posttest--White Non-Hispanic Students

Grade	Outcome Variable											
	CTBS Reading Total **Analysis Correlations**			CTBS Reading Vocabulary **Analysis Correlations**			**CTBS Math Computation Analysis Correlations**			**Attitude Toward School Analysis Correlations**		
	Treatment with			Treatment with			Treatment with			Treatment with		
	Pretest	**SES**	**Posttest**	**Pretest**	**SES**	**Posttest**	**Pretest**	**SES**	**Posttest**	**Pretest**	**SES**	**Posttest**
2	.13	.17*	.10 (153)[b]	.14	.15	.10 (151)	.29**	.13	.28** (158)	-.10	.15	.03 (149)
3	.12	.15*	.03 (239)	.14*	.14*	.05 (242)	.17*	.14*	.05 (216)	-.04	.13*	.04 (222)
4	.21*	.04	.17** (221)	.14*	.05	.14* (224)	21**	.10	.18** (219)	.00	.07	-.09 (224)
5	.10	.07	.16 (118)	.10	.08	.18 (119)	.09	.06	.26** (120)	-.04	.04	.06 (108)
6	.03	.02	.35** (102)	-.05	.01	.35** (103)	.08	.11	-.02 (104)	.02	.10	.03 (103)

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[a] Correlations between a continuous variable and a binary-coded variable like Title VII/Non-Title VII group membership are called point-biserial correlations. Treatment group membership was coded Title VII=2, non-Title VII=1.

[b] The number of students shown in parentheses is equal to the number of white non-Hispanic students who were present in participating classrooms during both fall 1975 and spring 1976 and who had a pretest and posttest score for a particular test. The difference between this number and that shown in Table VI-D-1 (presented earlier) is the number of students presumable present all school year who did not have a particular pretest and posttest score.

LEGEND:
* $p \leq .05$ (two-tailed t test)
** $p \leq .01$ (two-tailed t test)

TABLE VI-F-4

Zero-Order Correlations Between Title VII/Non-Title VII Group Membership[a]
and Pretest, Socioeconomic Status (SES), and Posttest--Black Students

Grade	Outcome Variable											
	CTBS Reading Total Analysis Correlations			CTBS Reading Vocabulary Analysis Correlations			CTBS Math Computation Analysis Correlations			Attitude Toward School Analysis Correlations		
	Treatment with			Treatment with			Treatment with			Treatment with		
	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest
2	.08	.05	.06 (114)[b]	.07	.06	.04 (112)	.06	.01	-.01 (106)	-.17	.06	.10 (101)
3	.22*	.18*	.14 (126)	.21*	.14	.20* (131)	.15	.16	.26** (125)	-.02	.16	.04 (137)
4	.13	.18*	.20* (137)	.15	.19*	.17 (138)	.21*	.18*	.15 (146)	.01	.17*	-.06 (143)
5	.48**	.20	.45** (85)	.49**	.20	.41** (85)	.32**	.13	.24* (82)	.13	.22*	-.15 (84)
6	.05	.45**	.00 (46)	.01	.45**	-.04 (46)	.12	.52**	.32* (45)	-.16	.52**	-.25 (46)

[a] Correlations between a continuous variable and a binary-coded variable like Title VII/Non-Title VII group membership are called point-biserial correlations. Treatment group membership was coded Title VII=2, non-Title VII=1.

[b] The number of students shown in parentheses is equal to the number of black students who were present in participating classrooms during both fall 1975 and spring 1976 and who had a pretest and posttest score for a particular test. The difference between this number and that shown in Table VI-D-1 (presented earlier) is the number of students presumably present all school year who did not have a particular pretest and posttest score.

LEGEND:
* p≤.05 (two-tailed t test)
**p≤.01 (two-tailed t test)

TABLE VI-F-5

Zero-Order Correlations Between Title VII/Non-Title VII Group Membership[a]
and Pretest, Socioeconomic Status (SES), and Posttest--Other Students

	Outcome Variable											
Grade	CTBS Reading Total Analysis Correlations			CTBS Reading Vocabulary Analysis Correlations			CTBS Math Computation Analysis Correlations			Attitude Toward School Analysis Correlations		
	Treatment with			Treatment with			Treatment with			Treatment with		
	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest	Pretest	SES	Posttest
2	-.45**	-.36**	-.41** (109)[b]	-.36**	-.36**	-.41** (109)	-.39**	-.35**	-.14 (113)	-.24*	-.31**	.08 (102)
3	-.23**	-.53**	-.35** (138)	-.22**	-.54**	-.28** (143)	-.27**	-.56**	-.35** (144)	.10	-.55**	-.13 (146)
4	-.04	-.21**	-.05 (89)	-.06	-.21*	.02 (90)	.14	-.18	.19 (93)	.05	-.18	.18 (94)
5	-.26**	-.35**	-.15 (104)	-.26**	-.35**	-.15 (105)	-.13	-.33**	.02 (106)	.08	-.29**	.03 (105)
6	-.51**	.02	-.25 (52)	-.50**	.02	-.25 (53)	-.15	.03	-.13 (52)	.19	.01	.22 (51)

[a] Correlations between a continuous variable and a binary-coded variable like Title VII/Non-Title VII group membership are called a point-biserial correlations. Treatment group membership was coded Title VII=2, non-Title VII=1.

[b] The number of students shown in parentheses is equal to the number of other students who were present in participating classrooms during both fall 1975 and spring 1976 and who had a pretest and posttest score for for a particular test. The difference between this number and that shown in Table VI-D-1 (presented earlier) is the number of students presumably present all school year who did not have a particular pretest and posttest score.

LEGEND:
* p≤.05 (two-tailed t test)
**p≤.01 (two-tailed t test)

- Hispanic students. Hispanic students in Title VII did not differ greatly from Hispanic students who were members of non-Title VII comparison classrooms either with respect to mean pretest score or mean socioeconomic status. However, there was a slight tendency for Hispanic Title VII students, on the average, to have lower pretest scores and to be of slightly higher socioeconomic status than non-Title VII Hispanic comparison group students. This was especially true of grades 5 and 6. Nevertheless, the lack of large point-biserial correlations suggested that Hispanic Title VII and non-Title VII groups were reasonably comparable with respect to average initial achievement level and socioeconomic status. Lastly, meaningfully large mean differences in initial Attitude Toward School were not present in any of the grades.
- White non-Hispanic, black, and other students. On the average, white non-Hispanics and blacks in Title VII classrooms tended to have higher pretest scores and higher socioeconomic status scores than did white non-Hispanic or black non-Title VII students. On the other hand, fall 1975 Title VII/non-Title VII Attitude Toward School differences for white non-Hispanic students and for black students were small. These results suggest the conclusion that the non-Title VII white non-Hispanic students and the black students available for the fall-to-spring analyses of growth in achievement were not highly similar to the Title VII non-Hispanic white students and black students in these same analyses. In general, Title VII students (on the average) obtained higher achievement pretest scores and were of higher socioeconomic status.

  Title VII students whose ethnic group membership had been designated as Asian, American Indian, or "other" or for whom ethnic group information was not reported tended to receive lower pretest scores (on the average) and tended to be of lower socioeconomic status than non-Title VII comparison students.

To summarize, the trends evident in Tables VI-F-2 through VI-F-5 show that the comparative analyses for Hispanic students (especially those in grades 2, 3, and 4) would involve reasonably large groups of Title VII and non-Title VII students that were, on the average, fairly similar to each other with respect to pretest level and socioeconomic status. The findings also indicated that Title VII/non-Title VII comparative analyses for the white non-Hispanic, black, and "other" groups might be inappropriate because of the presence of nontrivial pretest and SES differences between Title VII and non-Title VII groups.

These findings, however, did not address the concern that fall-to-spring growth rates for the Title VII and non-Title VII groups might not be similar. Results concerning an analysis of this issue are presented next.

Title VII/non-Title VII analysis sample differences in posttest/pretest regression surfaces. Title VII/non-Title VII differences with respect to the relationship of posttest to pretest and socioeconomic status were examined because (1) the use of analysis of covariance (a statistical procedure that can be used to adjust posttest scores for pretest or socioeconomic status differences between a Title VII group and its non-Title VII comparison group) assumes that the true relationship of posttest to pretest and socioeconomic status is the same for Title VII and non-Title VII students and (2) it was conceivable that one effect of participation in the Title VII bilingual program was a substantial alteration of the rate of growth in achievement or in the relationship between achievement and socioeconomic status. Because the analyses were stratified by ethnic group, the student groups compared with each other in these analyses were composed of students from the same ethnic group.

Tables VI-F-32a through VI-F-35a in Appendix VI-F contain the results of the statistical analyses that tested whether or not the Title VII and non-Title VII slopes for the regression of posttest on pretest and socioeconomic status were similar enough to have come from populations with the same relationship of pretest and socioeconomic status to posttest. In statistical terms, these were tests for homogeneity of within-group regression in which the homogeneity of both covariates, pretest and SES, were tested simultaneously. Although there was considerable variation in the results, these analyses suggested that following conclusions regarding Title VII/non-Title VII differences with respect to the rate of fall-to-spring growth in achievement and the nature of the relationship between posttest (or post-attitude) and socioeconomic status.

- Hispanic students. The relation of posttest to pretest and socioeconomic status for Title VII and non-Title VII Hispanic students was quite similar for all outcome variables--CTBS Reading Total, CTBS Vocabulary, CTBS Mathematics Computation, and Attitude Toward School. Although statistically significant differences ($p \leq .05$) did arise in seven of the 20 analyses for Hispanic students, the magnitude of the heterogeneity they evidenced was quite small. In fact, the regression models containing separate pretest and SES regression coefficients for Title VII and non-Title VII students usually accounted for only slightly more of the variance in posttest than did the appropriate model containing pooled coefficients (a single pretest and a single SES coefficient for Title VII and non-Title VII students alike). The additional variance accounted for was usually less than 1% and was about 2% at the greatest. The large number of Hispanic students present in the analysis samples was undoubtedly the reason that small differences in slopes were statistically significant. Since the differences in pretest and SES means between Title VII and non-Title VII Hispanic students were small (discussed earlier in this section) and since the relationship of pretest and socioeconomic status to posttest was generally similar, the use of analysis of covariance (discussed in the next section) to adjust for small pretest and SES differences was judged reasonably appropriate in the case of the Hispanic analysis samples, especially those in grades 2, 3, and 4.

- White non-Hispanic students. A number of the differences between Title VII and non-Title VII white non-Hispanic students with respect to the relationship of pretest and socioeconomic status to posttest were large. Differences in regression surfaces usually accounted for less than 5% of the variance of the posttest. However, in one analysis (grade 6, CTBS Reading Total Score analysis) the additional variance accounted for was almost 8%. Differences of this magnitude suggested that the use of analysis of covariance probably was not appropriate for many of the analysis samples containing white non-Hispanic students, especially because there were reasonably large differences in mean pretest and SES levels among Title VII and non-Title VII groups. The small size of the samples involved (see Table VI-D-1 in Section D of this chapter) also suggested the limited usefulness of program-level comparative analyses for the white non-Hispanic subgroup of students.

- Black students. Title VII/non-Title VII differences in the the relationship of posttest to pretest and socioeconomic status existed for black students but were not dramatically large. Using the additional proportion of posttest variance accounted for by regression models containing separate regression coefficients (rather than the pooled coefficients assumed in analysis of covariance procedures) for Title VII and non-Title VII student groups showed that separate coefficients increased the accuracy of the prediction of the posttest by about 4% at most. However, these differences when combined with the notable mean pretest and socioeconomic status differences among Title VII and non-Title VII black students suggested that caution would be necessary in interpreting many of the analysis of covariance results for these students. The limited number of such students present in the Impact Study would also tend to limit the generality of findings.

- Other students. Heterogeneity of within-group regression coefficients for pretest and socioeconomic status was also present in a number of the analyses for the "Other" ethnic group stratum. The existence of notable mean pretest and SES differences for these students as well as their small number thus suggests caution in the interpretation of any Title VII/non-Title VII comparative analyses.

The analyses just presented showed that the relationship of pretest and socioeconomic status to posttest was reasonably similar for Title VII and non-Title VII Hispanic students. Larger differences were found for white non-Hispanic students, black students, and other students. These results led to the overall conclusion that the homogeneity of within-group regression assumption required in order to adjust Title VII/non-Title VII posttest differences for pretest and socioeconomic status differences by means of analysis of covariance was appropriate for Hispanic students. General use of analysis of covariance with the data provided by white non-Hispanic, black, and other students was not supported.

The Characteristics of Students Who Completed Test/Questionnaire Materials Designed for Spanish Monolingual Students

Because most students judged by their teachers to be Spanish monolingual (for purposes of test and questionnaire administration) were Hispanic students enrolled in Title VII classrooms, the analysis of achievement growth for Spanish monolingual students was implemented only for Hispanic Title VII students. Thus, the descriptive analyses summarized in this section were based upon Hispanic Title VII students who were present during both fall 1975 and spring 1976 (and, therefore, included in the analyses of fall-to-spring growth in achievement or attitude.)

Inspection of the results suggested the following conclusions:

- Numbers of students and their site distribution. Although the numbers of Spanish monolingual Title VII Hispanic students in grades 2 through 4 were fairly small (21% of Hispanic total; 16% of Title VII total), the findings they yielded can be considered representative of Title VII program effects due to their location in a variety of participating projects (see Table VI-F-6).
- Sex. Except for grade 2, where the proportion of boys and girls was alomost equal, there tended to be slightly more girls than boys. The greatest difference occurred in grade 4 where there were about 39% boys and 61% girls.

TABLE VI-F-6

Number and Site Distribution of Spanish Monolingual Title VII Hispanic Students Present During Both Fall 1975 and Spring 1976

Grade	Number of Students	Number of Sites/Projects		
		Total	With Five or More Students	With Four or Fewer Students
2	296	23	17	6
3	223	25	13	12
4	157	26	13	13
5	120	17	8	9
6	64	11	6	5

- Years in bilingual education classes. Fifty-eight percent or more of the students in grades 2 through 6 had been in bilingual education classes for two or more years as of fall 1975.
- Basis for presence in a bilingual project class. Of the Spanish monolingual students, depending on grade, between 39% and 65% were in Title VII classrooms because of their limited proficiency in English. Between 18% and 52% were there because of parental request.
- First school year in the continental United States. The 1975-76 school year was the first in the continental United States for between 7% and 17% of the students (depending on the particular grade).

The Possible Impact of Out-of-Level Testing

As noted throughout this report, because of their limited skills in English Language Arts, Spanish monolingual students at all grade levels were given the CTBS, Form S, Level C, Reading tests as both a pretest and posttest. Although the Expanded Standard Scores developed by the test publisher, CTB/McGraw-Hill, were designed to provide a measure of the same underlying achievement dimension regardless of the form or level of the CTBS used, project staff decided to evaluate empirically whether or not including Expanded Standard Scores from different levels of the CTBS could substantially affect the findings obtained. The methods and results of these analyses are summarized in this section.

Method. Because the vast majority of all students who were given test and questionnaire materials designed for Spanish monolinguals were Hispanic and members of Title VII classrooms (see Table VI-D-2a in Appendix VI-D), project staff decided to limit these analyses to Hispanic Title VII students. The total sample of eligible students (Hispanic Title VII who were present during both fall 1975 and spring 1976) was divided into three strata on the basis of the particular combination of tests and questionnaires they completed. To simplify the subsequent analyses and to have a reasonably large group of students who were judged to be bilingual, students who were judged to be English-dominant bilingual and Spanish-dominant bilingual were pooled into a single group. Both of these groups of bilingual students took the same CTBS Reading tests. However, Spanish-dominant students were given a Spanish translation of the CTBS Mathematics tests. The numbers of students involved in these analyses are summarized in Table VI-F-7.

Differences in the performance of these groups of students on the CTBS tests they were given were analyzed by (1) computing the pretest and posttest mean, standard deviation, and skew[1] for each language dominance group and (2) using regression analysis to assess whether on not the relationship between pretest and posttest was the same in each of the language dominance groups. Although the CTBS Reading Total and Vocabulary Expanded Standard Scores were of major interest in these analyses, CTBS Mathematics Computation Expanded Standard Scores were also included as a comparison base (since problems with comprehension of English presumably should not have affected these scores).

The regression analysis procedure was almost identical to that used to test the homogeneity of within-group regression assumption necessary when using analysis of covariance:

- A posttest-on-pretest and socioeconomic-status regression model was specified to allow the estimation of (1) separate pretest regression coefficients for English monolingual, bilingual, and Spanish monolingual student groups, (2) a common socioeconomic status[2] regression coefficient for students in all three language groups, and (3) separate intercepts for the three language groups. The multiple

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[1] $$\text{Skew} = g_1 = \frac{\frac{\Sigma x^3}{N}}{\frac{\Sigma x^2}{N}\sqrt{\frac{\Sigma x^2}{N}}} \quad \text{where } x = (X-\bar{X}).$$

[2] Socioeconomic status was included as a predictor variable because it was present in the Title VII/non-Title VII comparative analyses conducted later. Separate socioeconomic status slopes were not incorporated in the full model because there was no *a priori* reason why it should take on different values for the groups analyzed here.

TABLE VI-F-7

Number of Title VII Hispanic Students in Each of Three Judged Language Dominance Groups-- Out-of-Level Testing Analysis

Outcome Variable	Grade	English Monolingual		Bilingual[a]		Spanish Monolingual		Total Across Language Groups	
		Number with Pretests/ Posttests	Total Eligible[b]	Number with Pretests/ Posttests	Total Eligible[b]	Number with Pretests/ Posttests	Total Eligible[b]	Number with Pretests/ Posttests	Total Eligible[b]
CTBS Reading Total Expanded Standard Score	2	134	146	332	371	256	296	722	813
	3	262	299	468	509	175	223	905	1031
	4	235	248	577	620	129	157	941	1025
	5	267	300	361	407	103	120	731	827
	6	58	62	228	274	55	64	341	400
CTBS Vocabulary Expanded Standard Score	2	134	146	331	371	254	296	719	813
	3	271	299	477	509	200	223	948	1031
	4	238	248	583	620	134	157	955	1025
	5	272	300	367	407	110	120	749	827
	6	59	62	245	274	56	64	360	400
CTBS Mathematics Computation Expanded Standard Score	2	127	146	344	371	257	296	728	813
	3	265	299	476	509	201	223	942	1031
	4	227	248	580	620	143	157	950	1025
	5	278	300	349	407	100	120	727	827
	6	59	62	233	274	51	64	343	400

[a] Includes students judged to be English-dominant bilingual and Spanish-dominant bilingual.

[b] Total number of Title VII Hispanic students who were present during both fall 1975 and spring 1976.

correlation (squared) for this model (called the full model) was then computed.

- A set of linear restrictions that corresponded to the null hypothesis, "the posttest-on-pretest regression coefficients for each of the separate language groups are equal" was imposed on the coefficients in the full model. These constraints were then incorporated in the full model, and a restricted model multiple correlation (squared) was obtained.
- A partial $\underline{F}$ test was used to evaluate whether or not the null hypothesis that different language groups had a common posttest on pretest regression coefficient could be rejected.

Out-of-level testing results. Means, standard deviations, and skew for these three judged language groups are shown in Table VI-F-8, and the regression analysis results are contained in Table VI-F-9. The regression analyses results show that differences among the posttest-on-pretest regression coefficients were statistically significant ($p \leq .05$) in four of the ten English Language Arts analyses (Reading Total and Vocabulary). The additional proportion of posttest variance accounted for by the models with separate coefficients for different language groups was slightly more than 1% at most (grade 2, Reading Total Score analysis). These results suggest that the pretest/posttest relationship for students who took different levels of the CTBS Reading tests were reasonably similar. There were, however, considerable differences among the groups with respect to mean pretest level (see Table VI-F-8), Spanish monolinguals usually having the lowest means. Standard deviations for Spanish monolingual students also were usually smaller than those for bilingual and English monolingual students, except in the analyses of Mathematics Computation. Skewness was present in the distributions of scores from all language groups. However, no really definite systematic trends in the direction and magnitude of skew seemed to be present.

Conclusions regarding the possible impact of pooling CTBS Expanded Standard Scores from out-of-level tests. Most of the students in grades 3 through 6 who took out-of-level CTBS Reading tests (those judged to be Spanish monolingual) were Hispanic and members of Title VII classrooms.

TABLE VI-F-8

MEAN, STANDARD DEVIATION, AND SKEW FOR TITLE VII HISPANIC STUDENTS -- OUT-OF-LEVEL TESTING ANALYSES

Outcome Variable	Grade	CTBS Form/Level		Monolingual English[a]						Bilingual[a,b]						Monolingual Spanish[a]					
				Pretest			Posttest			Pretest			Posttest			Pretest			Posttest		
		Pretest	Posttest	Mean	SD	Skew	Mean	SD	Skew	Mean	SD	Skew	Mean	SD	Skew	Mean	SD	Skew	Mean	SD	Skew
CTBS Reading Total Expanded Standard Score	2	S/C	S/C	243.9	54.6	0.22	287.0	54.9	-0.04	253.2	52.0	-0.18	288.4	47.6	-0.29	209.2	47.6	-0.43	233.8	46.3	0.30
	3	S/1	T/1	304.3	52.8	0.44	322.7	52.1	0.54	304.0	52.4	0.37	325.1	55.2	0.94	239.3	36.7	0.32	258.4	44.0	0.06
	4	S/1	T/1	358.9	67.2	0.58	374.1	67.5	0.45	337.9	62.5	0.24	362.0	59.2	0.53	257.4	46.1	1.27	279.1	42.7	-0.12
	5	S/2	T/2	370.5	69.1	0.61	380.9	70.5	0.40	362.8	63.2	0.28	405.9	78.2	0.72	278.4	56.4	0.79	300.1	49.6	0.25
	6	S/2	T/2	397.6	68.7	0.74	410.3	79.0	0.53	394.7	65.5	0.01	402.5	73.9	0.26	291.6	67.1	0.22	303.4	53.9	0.16
CTBS Reading Vocabulary Expanded Standard Score	2	S/C	S/C	256.5	54.2	0.33	295.2	52.1	-0.02	260.2	47.7	0.02	292.7	47.5	-0.09	226.3	35.4	0.69	242.2	42.4	0.62
	3	S/1	S/1	306.1	53.6	0.20	325.1	49.3	0.57	307.4	49.5	0.30	325.6	52.2	0.90	238.4	36.8	0.22	258.3	45.4	0.14
	4	S/1	S/1	355.3	65.8	0.14	369.4	59.0	0.30	336.9	60.4	0.19	357.3	53.4	0.50	254.0	49.2	1.23	277.2	45.5	0.30
	5	S/2	S/2	375.4	64.7	0.74	376.3	60.7	0.54	365.2	61.6	0.09	376.6	61.1	0.38	276.6	60.1	0.70	294.4	57.1	0.32
	6	S/2	S/2	403.6	65.0	0.72	406.7	85.5	0.58	400.0	62.9	-0.11	397.6	66.5	0.44	294.2	70.3	0.35	297.1	63.9	0.12
CTBS Mathematics Computation Expanded Standard Score	2	S/C	S/C	259.5	32.3	0.30	292.5	37.3	0.06	265.5	33.7	-0.02	301.3	34.6	-0.02	248.5	31.1	0.25	289.3	38.9	-0.13
	3	S/1	S/1	307.4	34.5	0.24	349.6	39.3	0.34	309.8	34.6	0.75	344.5	40.3	0.38	295.1	39.9	0.57	341.1	39.0	0.04
	4	S/1	S/1	358.5	41.3	0.42	389.9	43.0	-0.20	365.9	47.2	0.15	391.0	44.4	-0.20	350.8	50.6	0.37	379.6	47.5	-0.14
	5	S/2	S/2	385.8	44.4	-0.03	406.2	52.5	-0.36	386.3	50.1	-0.07	406.6	61.0	0.24	363.6	55.3	-0.13	393.7	59.8	0.13
	6	S/2	S/2	431.6	57.7	0.58	432.0	66.5	-0.17	421.2	50.1	-0.27	440.4	53.4	0.07	397.7	56.2	-0.50	424.2	64.9	-0.11

[a] Numbers of students in each group are shown in Table VI-F-6. Only Title VII Hispanic students who were present during both fall 1975 and spring 1976 and had pretest/posttest scores were included in these analyses.

[b] Includes students judged to be bilingual-English dominant and bilingual-Spanish dominant.

TABLE VI-F-9

REGRESSION ANALYSIS RESULTS FOR THE OUT-OF-LEVEL TESTING ANALYSES -- HISPANIC TITLE VII STUDENTS

Outcome Variable	Grade	CTBS Form/Level		Numbers of Students				Full Model (Different slope for pretest, same slope for SES)			Restricted Model (Same slope for pretest, same slope for SES)		
		Pretest	Posttest	Monolingual English	Bilingual	Monolingual Spanish	Total	df	R^2	F	df	R^2	F
CTBS Reading Total Expanded Standard Score	2	S/C	S/C	134	332	256	722	6, 715	.53072	134.77**	2, 715	.51705	10.41**
	3	S/1	T/1	262	462	175	905	6, 898	.59346	218.48**	2, 898	.59326	0.22
	4	S/1	T/1	235	577	129	941	6, 934	.74125	445.94**	2, 934	.73811	5.67**
	5	S/2	T/2	267	361	103	731	6, 724	.53854	140.82**	2, 724	.53784	0.55
	6	S/2	T/2	58	228	55	341	6, 334	.66889	112.45**	2, 334	.66536	1.78
CTBS Reading Vocabulary Expanded Standard Score	2	S/C	S/C	134	331	254	719	6, 712	.52238	129.79**	2, 712	.52103	1.01
	3	S/1	T/1	271	477	200	948	6, 941	.53654	181.57**	2, 941	.53480	1.77
	4	S/1	T/1	238	583	134	955	6, 948	.67964	335.20**	2, 948	.67874	1.33
	5	S/2	T/2	272	367	110	749	6, 742	.60040	185.81**	2, 742	.59692	3.23*
	6	S/2	T/2	59	245	56	360	6, 353	.64961	109.07**	2, 353	.63999	4.85**
CTBS Mathematics Computation Expanded Standard Score	2	S/C	S/C	127	344	257	728	6, 721	.30191	51.97**	2, 721	.29933	1.33
	3	S/1	S/1	265	476	201	942	6, 935	.32027	73.43**	2, 935	.31702	2.24
	4	S/1	S/1	227	580	143	950	6, 943	.51048	163.90**	2, 943	.50943	1.01
	5	S/2	S/2	278	349	100	727	6, 720	.47597	109.00**	2, 720	.47397	1.37
	6	S/2	S/2	59	233	51	343	6, 336	.45020	45.86**	2, 336	.44842	0.54

Legend: * $p \leq .05$

** $p \leq .01$

Thus, it seems reasonable to suspect that, if any spurious effects were associated with the use of CTBS Expanded Standard Scores generated from out-of-level tests, they would affect the trends shown by this particular group of students. The analyses described here, however, supported the conclusion that large systematic differences in the relationship of pretest to posttest (each measured in CTBS Expanded Standard Score units) did not exist among Hispanic Title VII students who were given different levels of the CTBS Reading Tests (in grades 3 through 6). Although Spanish monolingual and Spanish-dominant bilingual students (part of the "bilingual" group analyzed here) took a Spanish translation of the appropriate level of the CTBS Mathematics tests, there also was no evidence that their rates of pretest-to-posttest growth in Mathematics Computation were different from those of English monolingual students.

Since the rate of growth between pretest and posttest was reasonably similar for Hispanic Title VII students taking different levels of the CTBS Reading Tests and since the same out-of-level test was used as a pretest and as a posttest (for Spanish monolingual students), it is concluded that pooling CTBS Expanded Standard Scores derived from the CTBS Level C with those from Levels 1 and 2 is not likely to bias in any substantial manner the analyses in which the pretest-to-posttest growth of Title VII and non-Title VII Hispanic students were to be compared (given that growth rates for Title VII and non-Title VII are comparable). Because the same students taking the same out-of-level tests were involved in the computation of both pretest and posttest means, it would seem that many of the biasing factores present in the pretest means would also be present in the posttest means. For this reason, the CTBS norm comparisons are also likely to be meaningful.

Conclusions Regarding the Comparability of Title VII and Non-Title VII Analysis Samples

Hispanic students. In review, it would appear that Title VII/non-Title VII comparative analyses seem appropriate in the case of the major group of students sampled by the Impact Study--the Hispanic student subsample in grades 2, 3, and 4. On the average, Title VII and non-Title VII Hispanic students in these grades were similar with respect to socioeconomic status and initial achievement level (i.e., pretest). The relationship of pretest and socioeconomic status with posttest was similar so that the use of analysis of covariance to adjust the results for the small differences in pretest and socioeconomic status was judged appropriate. Although Title VII and non-Title VII Hispanic students were reasonably equivalent with respect to a number of background characteristics, Title VII students had considerably more prior experience in bilingual education classes than non-Title VII students had. Relative to non-Title VII students, a substantially greater proportion of Title VII Hispanic students were assigned test and questionnaire materials designed for Spanish monolingual students. The majority of both Title VII and non-Title VII students in these analyses, however, were given materials for English monolingual or English-dominant bilingual students.

A special set of analyses showed that including CTBS Expanded Standard Scores derived from different levels of the CTBS was not likely to bias, either positively or negatively, the analyses of fall 1975 to spring 1976 growth in achievement as measured by the CTBS Reading Total Score and Vocabulary Score. Nevertheless, because Spanish monolingual students are of special interest in this evaluation, the fact that it seemed reasonable to pool their data(derived from out-of-level tests for students in grades 3 through 6) did not alter initial plans to examine separately the performance of this select group of students.

The large number of Title VII and non-Title VII Hispanic students and their distribution in a variety of sites support the conclusion that the findings obtained for these students, especially those in grades 2, 3, and 4, will be indicative of general, Title VII program effects. Lastly, the small number and limited site distribution of non-Title VII Hispanic students in grades 5 and 6, suggested that the performance of the large numbers of Title VII Hispanic students in these two grades should be evaluated primarily on the basis of CTBS national norms.

White non-Hispanic, black, and other students. Title VII/non-Title VII mean differences on pretest and on socioeconomic status, differences in the relationship of posttest to pretest and socioeconomic status, the limited site distribution of non-Title VII students, and small numbers of students in the analysis groups suggested that analysis of covariance and

Title VII/non-Title VII comparative analyses for the white non-Hispanic, black, and "Other" student groups were not appropriate. Therefore, the primary manner in which the performance of Title VII students in these groups was evaluated was by comparing pretest and posttest means with CTBS national norms. Inspection of site distribution of Title VII students showed that students in grades 2 through 5 were not necessarily members of a small subset of projects. Nevertheless, project staff felt that the more limited site distribution of these students could reduce the generality of any Title VII trends demonstrated (relative to the generality of the findings for Hispanic students).

G. What Was the Impact of the ESEA Title VII Spanish/English Bilingual Education Program on Student Achievement and Attitude Toward School During the 1975-76 School Year?

In the sections to follow are the results of the analyses in which the impact of participation in a Title VII project during the 1975-76 school year was evaluated. Results are summarized in four sections: English Language Arts Achievement, Mathematics Achievement, School-Related Attitudes, and Spanish Language Arts Achievement. Each section begins with a descriptive overview of the average pretest-to-posttest score gains demonstrated by Title VII and non-TItle VII students. Following the descriptive analyses of average gains in achievement (or attitude) are the findings concerning program impact. The results discussed are primarily those for Hispanic students for the following reasons:

- Hispanic students (particularly those with limited English-speaking ability) were the target population for the projects sampled in the Impact Study.
- Findings for Hispanic students were likely to be representative of overall program effects because the large numbers of Title VII and non-Title VII Hispanic students in the analysis samples (especially grades 2, 3, and 4) and their location in a variety of different projects meant that any of the average differences obtained were probably not due to factors associated with a particular project.

- Groups of Title VII Hispanic students and non-Title VII Hispanic students, expecially those in grades 2, 3, and 4, were judged to be reasonably comparable in terms of their average socioeconomic status and their average achievement level at the beginning of the 1975-76 school year.

An overview of the Impact Study's findings and conclusions regarding overall ESEA Title VII Spanish/English Bilingual Education Program impact is presented in the last chapter, Chapter VIII.

English Language Arts Achievement: Simple Pretest to Posttest Gains

Hispanic students. Average pretest, posttest, and simple posttest-minus-pretest gains for Reading achievement and for English vocabulary achievement are shown in Table VI-G-1 and VI-G-2 for the Hispanic analysis samples. The analyses for each grade for a particular outcomes measure were always based upon the pretest and posttest scores for the same sample of students.

The results in Table VI-G-1 indicate that both Title VII and non-Title VII Hispanic students, on the average, were more proficient in English Reading at the time of the posttest than they were at the time the pretest was administered. However, average pretest-to-posttest Reading gains were larger for non-Title VII students than for Title VII students in four of the five grades sampled by the Impact Study. Only in grade 4 was the average Reading gain for Title VII students greater than that for its non-Title VII comparison group. Hispanic students, except for those in the sixth grade, were also more proficient in English vocabulary at posttest time than they were at pretest time (see Table VI-G-2). Although the mean vocabulary gains for non-Title VII comparison students exceeded those for Title VII students in grades 2 and 3, Title VII students showed greater average gains in grades 4, 5, and 6[1].

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[1] The number of fifth- and sixth-grade non-Title VII Hispanic students was small enough that caution needs to be used in interpreting Title VII/non-Title VII differences at the fifth- and especially sixth-grade level. The number of Hispanic Title VII fifth- and sixth graders, however, was reasonably large.

TABLE VI-G-1

CTBS Reading Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data --Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	241.6	283.1	41.5	235.9	268.8	32.9
	SD	57.2	53.3	42.5	54.7	55.0	44.4
	N	297	297	297	722	722	722
3	M	297.2	326.2	29.0	291.6	311.5	20.0
	SD	49.1	49.5	38.0	56.0	58.4	40.1
	N	469	469	469	905	905	905
4	M	335.0	347.5	12.5	332.1	353.6	21.5
	SD	52.6	55.9	29.3	69.1	66.6	37.0
	N	515	515	515	941	941	941
5	M	371.4	405.1	33.7	353.7	381.9	28.2
	SD	70.7	84.7	62.0	71.4	80.0	59.1
	N	144	144	144	731	731	731
6	M	398.5	422.1	23.5	378.6	387.8	9.2
	SD	71.7	81.5	66.7	76.4	80.8	48.5
	N	68	68	68	341	341	341

TABLE VI-G-2

CTBS Reading Vocabulary Score Pretest (Fall 1975)
and Posttest (Spring 1976) Means, Standard
Deviations, and Numbers of Students for All
Students with Pretest/Posttest Data --Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	250.6	289.7	39.1	247.5	275.3	27.8
	SD	49.8	54.2	42.0	47.7	52.6	41.3
	N	296	296	296	719	719	719
3	M	297.5	322.5	25.0	292.5	311.3	18.8
	SD	48.1	47.7	42.2	55.8	57.0	43.3
	N	488	488	488	948	948	948
4	M	331.2	340.6	9.4	329.3	349.1	19.2
	SD	51.7	54.5	33.2	68.1	61.3	40.1
	N	523	523	523	955	955	955
5	M	371.6	376.8	5.2	355.9	364.4	8.5
	SD	65.1	71.9	44.8	70.7	67.0	47.7
	N	144	144	144	749	749	749
6	M	398.5	391.2	-7.2	384.1	383.5	-0.6
	SD	69.3	71.1	46.6	75.0	78.7	49.7
	N	69	69	69	360	360	360

Figures VI-G-1 and VI-G-2 pictorially depict the pretest and posttest means for Title VII and non-Title VII Hispanic students for grades 2 through 6, for Reading and vocabulary achievement, respectively. These figures also show the CTBS Expanded Scale Scores corresponding to the 10th, 30th, and 50th percentiles based upon published norms for the appropriate grade level and form of the CTBS. Expanded Scale Scores for the national percentiles were plotted for testing conducted during month 1.0 (mid-October) and month 7.0 (mid-April) of the school year since these were the testing dates to which the norms refer. Impact Study Expanded Scale Score means were plotted at mid-November (month 2) and mid-May (month 8) because pretesting and posttesting, on the average, occurred approximately at those times (see Table VI-F-1).

So that the gains in Reading and vocabulary for Hispanic students could be compared with each other and with those at different grade levels, each mean gain or growth score shown in Tables VI-G-1 and VI-G-2 was divided by its standard deviation. The results, shown in Table VI-G-3, suggest that (1) the average Reading gains demonstrated by these students slightly exceeded those in vocabulary even though the CTBS vocabulary test is one of the subtests from which the Reading Total score is derived, and (2) average gains in Reading and vocabulary show a slight trend to decrease at each higher grade level. It must be noted, however, that the apparent across-outcome-variable trends in simple gain scores could represent sampling fluctuations[1] or artifacts of the CTBS Expanded Standard Scores used in these analyses. Since the tendency for average gains (expressed in standard deviation units) to decrease at each higher grade level was also present in the normative data for the CTBS, a reasonable explanation for the across-grade-level trends shown is that growth on the achievement dimension measured by the CTBS Expanded Standard Score scale is similar to that of the classic learning curve.

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[1] Because the examination of simple pretest-to posttest gain scores was primarily meant to be descriptive, Title VII/non-Title VII differences in average gains were not formally tested for statistical significance. For the same reason, average Title VII/non-Title VII differences in gains shown by different grades were not formally tested.

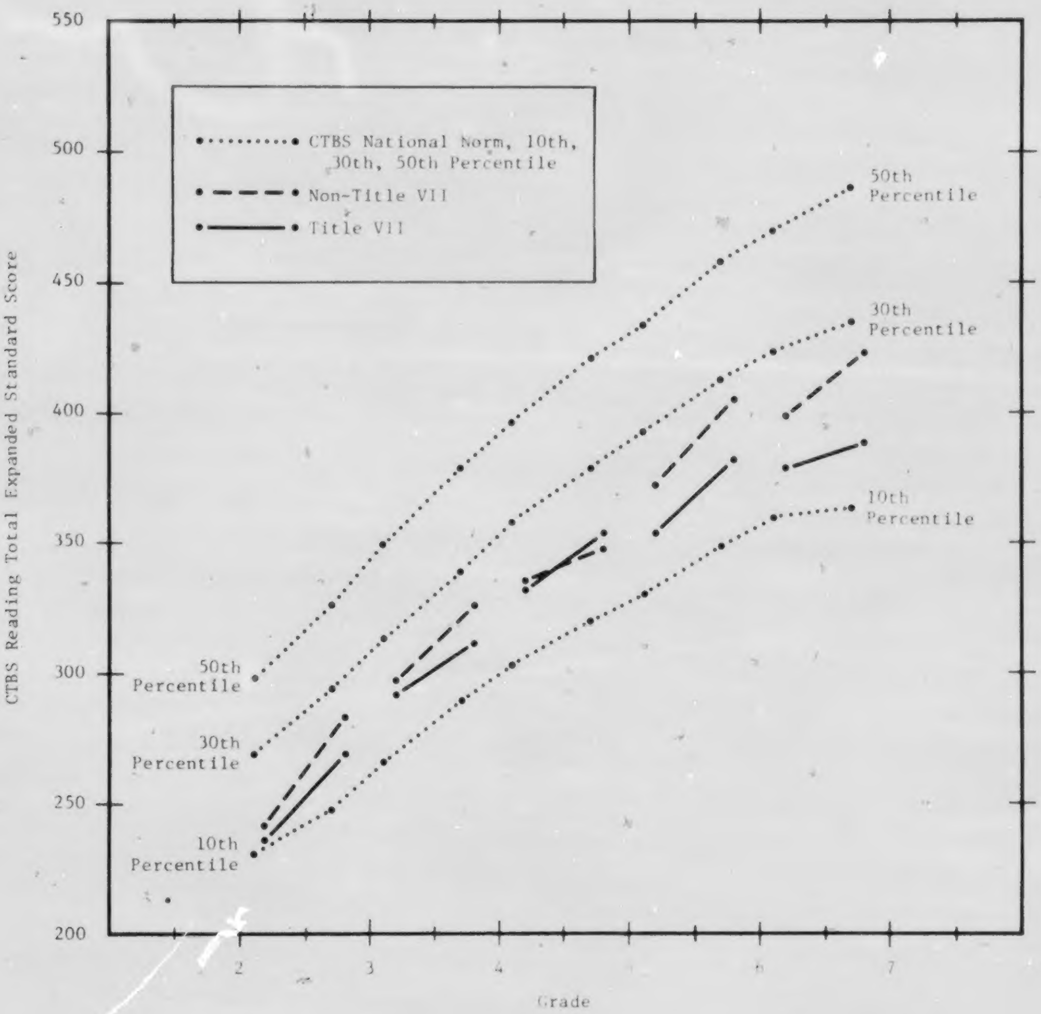

Figure VI-G-1 Reading Achievement Pretest and Posttest Means for Title VII and Non-Title VII Groups--Hispanic Students

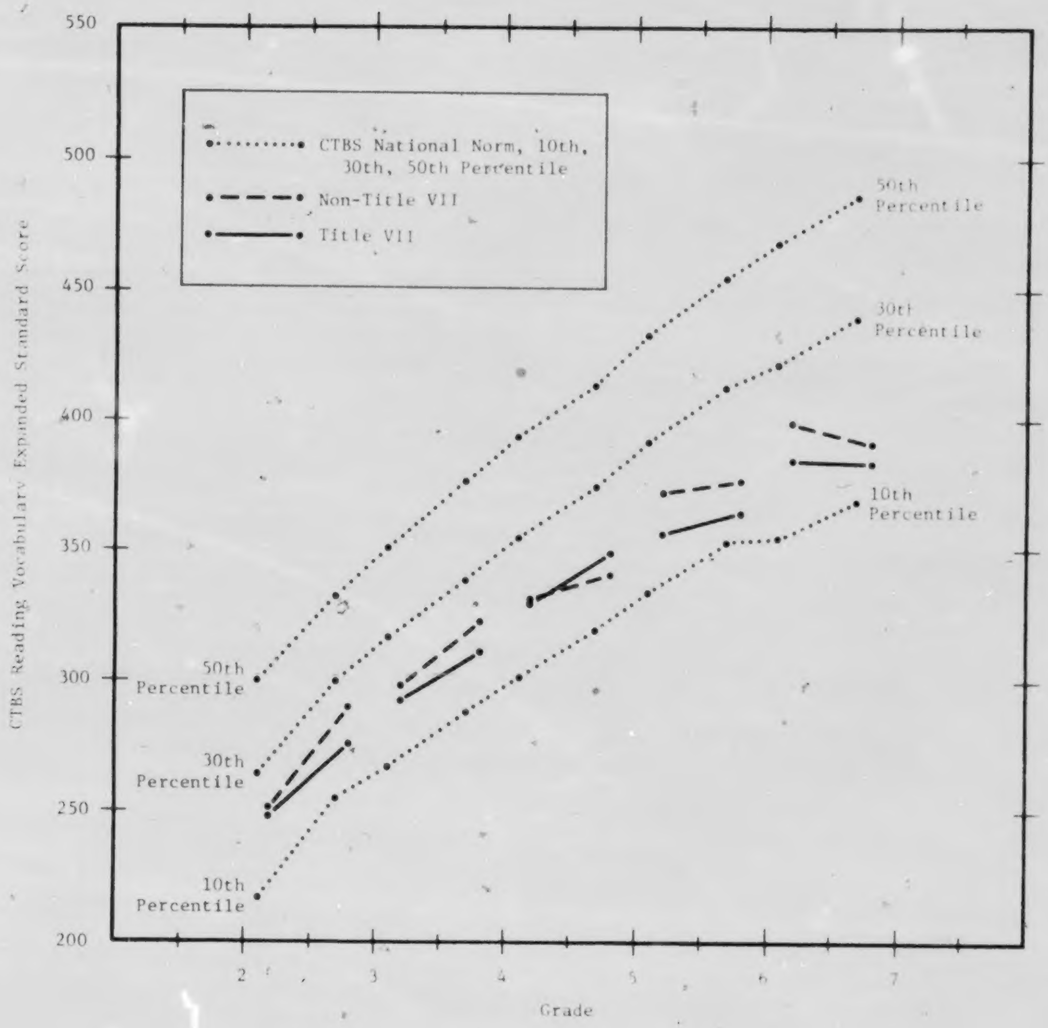

Figure VI-G-2 Vocabulary Achievement Pretest and Posttest Means for Title VII and Non-Title VII Groups--Hispanic Students

TABLE VI-G-3

Mean CTBS Reading Total and CTBS Vocabulary Growth Scores Expressed in Standard Deviation Units[a]--Hispanic Student Analyses

Grade	CTBS Reading Total Score Mean Growth		CTBS Vocabulary Score Mean Growth	
	Non-Title VII Comparison	Title VII	Non-Title VII Comparison	Title VII
2	.98	.74	.93	.67
3	.76	.50	.59	.43
4	.43	.58	.28	.48
5	.54	.48	.12	.18
6	.35	.19	-.15	-.00

[a] Each mean gain was standardized by use of the formula,

$$Z_g = \frac{M_2 - M_1}{S_g}$$

where,

Z_g = standardized mean gain,

M_2 = posttest mean,

M_1 = pretest mean, and

S_g = standard deviation of distribution of student gain scores in which gain equals posttest minus pretest.

Limited English-speaking Hispanic students. Because slmost all students judged[1] to be of limited English-speaking ability (Spanish monolingual) were Hispanic, pretest, posttest, and simple pretest-to-posttest gain scores were averaged separately by judged language dominance group for all Hispanic students. Table VI-G-4 and VI-G-5 show these descriptive statistics for Title VII students (non-Title VII means are not presented because of the extremely small number of non-Title VII students judged to be of limited English-speaking ability). Reading and vocabulary results for Spanish monolingual students are displayed pictorially in Figures VI-G-3 and VI-G-4.

Comparing the results in Tables VI-G-4 and VI-G-5 for Title VII Hispanic Spanish-monolingual students with the results presented earlier for all Title VII Hispanic students (Tables VI-G-1 and VI-G-2) indicates that the Reading and vocabulary performance levels of students judged to be Spanish monolingual were considerably lower than all Title VII Hispanic students taken together. Since the purpose of this discussion of mean pretest, posttest, and posttest-minus-pretest gains was descriptive and not meant to provide estimates of program impact, the issue of the impact of Title VII on Hispanic students and on Hispanic students who were judged to be Spanish monolingual will be evaluated after the descriptive analyses of white non-Hispanic, black, and other students.

White non-Hispanic, black, and other students. Tables VI-G-6 through VI-G-11 contain the average pretest, posttest, and posttest-minus-pretest gain scores in Reading achievement and vocabulary achievement for the white non-Hispanic, black, and other student analysis samples. As was the case for Hispanic students, it was generally true that posttest scores in Reading and vocabulary achievement were higher than pretest scores, indicating that additional English Language Arts skills were being acquired by both Title VII and non-Title VII students alike during the 1975-76 school year.

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[1] Judged language dominance, as mentioned previously, was operationally defined by the particular combination of instruments assigned by the classroom teacher to an individual student. Four packets of assessment materials were developed. These were targeted at English monolingual, English-dominant bilingual, Spanish-dominant bilingual, or Spanish monolingual students.

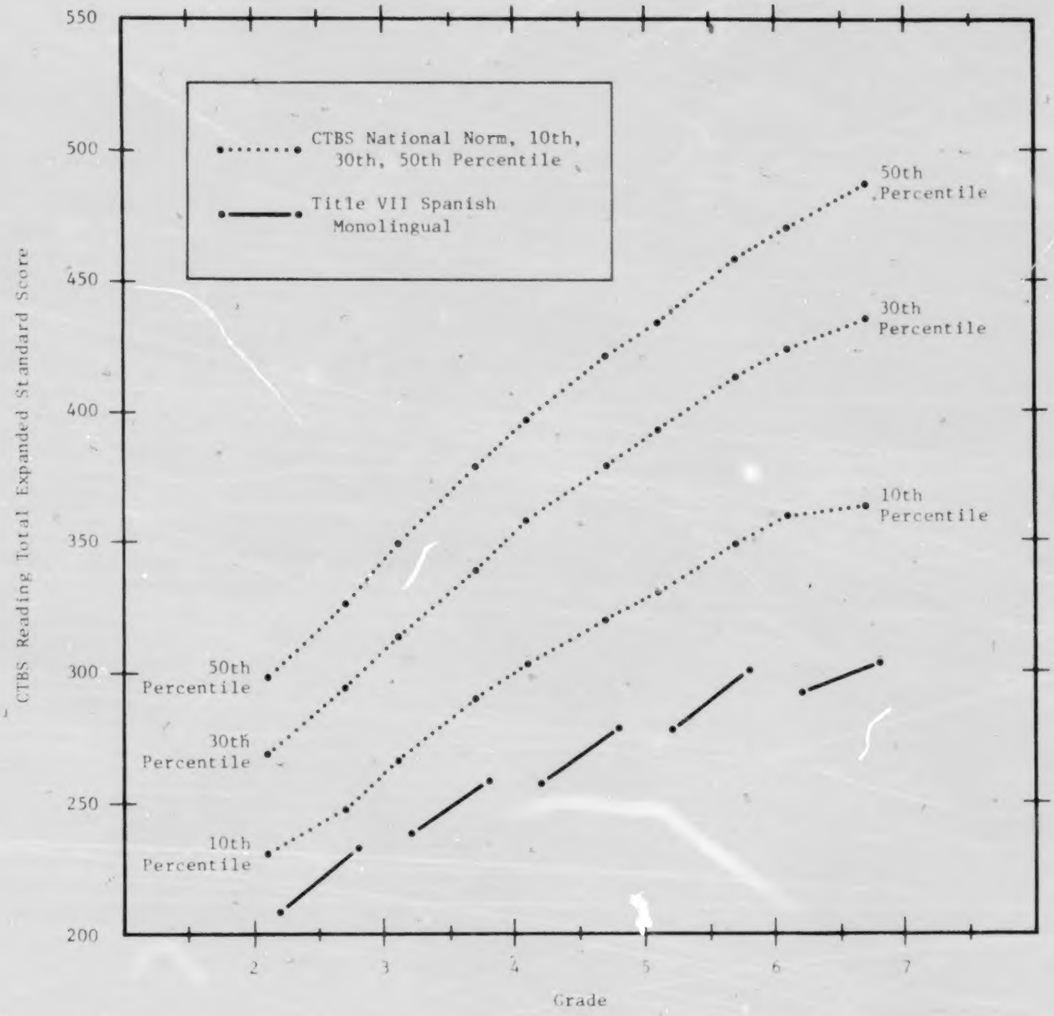

Figure VI-G-3 Reading Achievement Pretest and Posttest Means for Title VII Groups--Spanish Monolingual Hispanic Students

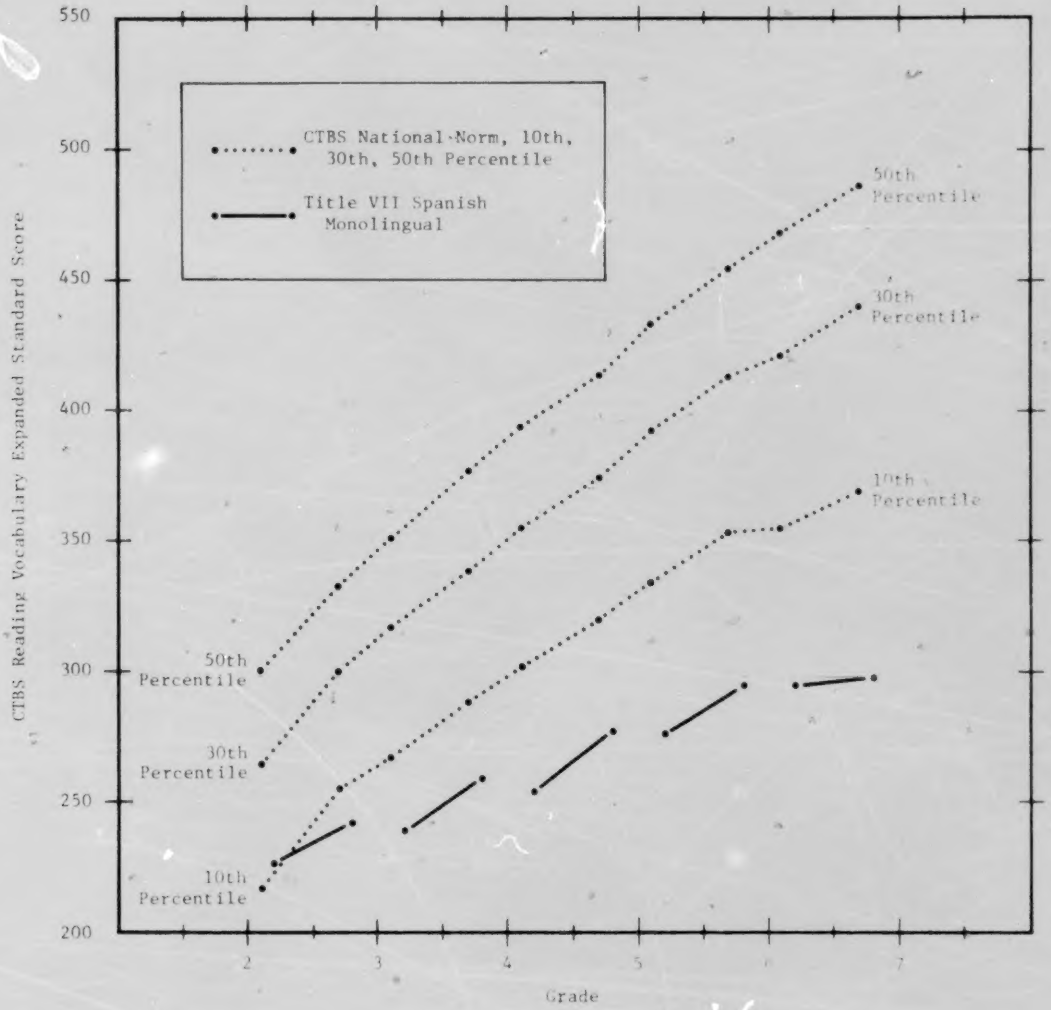

Figure VI-G-4 Vocabulary Achievement Pretest and Posttest Means for Title VII Groups--Spanish Monolingual Hispanic Students

TABLE VI-G-4

CTBS Reading Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations and Number of Students by Judged Language Dominance Group for Title VII Hispanic Students with Pretest/Posttest Data

Grade	Mean (M) Standard Deviations (SD) Number (N)	Monolingual English			Bilingual English-Dominant			Bilingual Spanish-Dominant			Monolingual Spanish		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	243.9	287.0	43.1	262.4	292.3	29.9	211.4	270.4	59.0	209.2	233.8	24.6
	SD	54.6	54.9	44.1	49.2	48.8	33.7	43.6	37.1	42.4	47.6	46.3	51.3
	N	134	134	134	272	272	272	60	60	60	256	256	256
3	M	304.3	322.7	18.4	305.4	327.3	21.9	286.5	298.9	12.4	239.3	258.4	19.1
	SD	52.8	52.1	38.5	52.8	56.1	41.9	42.8	34.5	32.7	36.7	44.0	39.1
	N	262	262	262	432	432	432	36	36	36	175	175	175
4	M	358.9	374.1	15.2	340.3	364.6	24.3	315.8	338.0	22.2	257.4	279.1	21.7
	SD	67.2	67.4	34.6	62.6	59.5	38.2	56.7	50.9	39.8	46.1	42.7	34.2
	N	235	235	235	520	520	520	57	57	57	129	129	129
5	M	370.5	380.9	10.4	363.5	406.8	43.3	359.0	400.9	41.9	278.4	300.1	21.7
	SD	69.0	70.5	54.5	62.8	75.2	62.3	65.5	93.7	70.5	56.4	49.6	37.1
	N	267	267	267	306	306	306	55	55	55	103	103	103
6	M	397.6	410.3	12.7	392.1	398.9	6.8	431.9	452.5	20.6	291.6	303.4	11.8
	SD	68.7	79.0	44.0	65.2	73.3	51.6	60.9	65.1	58.1	67.1	53.9	36.4
	N	58	58	58	213	213	213	15	15	15	55	55	55

TABLE VI-G-5

CTBS Reading Vocabulary Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations and Number of Students by Judged Language Dominance Group for Title VII Hispanic Students with Pretest/Posttest Data

Grade	Mean (M) Standard Deviations (SD) Number (N)	Monolingual English			Bilingual English-Dominant			Bilingual Spanish-Dominant			Monolingual Spanish		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	256.5	295.3	38.8	265.0	296.5	31.5	238.8	275.8	37.0	226.3	242.2	15.9
	SD	54.2	52.1	45.0	47.4	49.2	37.0	43.0	34.5	43.3	35.4	42.3	40.4
	N	134	134	134	271	271	271	60	60	60	254	254	254
3	M	306.1	325.1	19.0	308.8	327.2	18.4	291.2	307.3	16.1	238.4	258.3	19.9
	SD	53.6	49.3	44.0	49.5	53.1	45.6	46.5	36.0	37.8	36.8	45.4	38.1
	N	271	271	271	439	439	439	38	38	38	200	200	200
4	M	355.3	369.4	14.1	339.1	359.3	20.2	317.0	338.9	21.9	254.0	277.2	23.2
	SD	65.8	59.0	39.2	60.5	53.7	41.4	55.4	46.4	39.8	49.2	45.5	36.6
	N	238	238	238	525	525	525	58	58	58	134	134	134
5	M	375.4	376.3	0.9	366.0	377.0	11.0	360.6	374.8	14.2	276.7	294.4	17.7
	SD	64.7	60.7	51.8	60.7	60.6	42.6	66.4	64.0	49.6	60.2	57.1	47.3
	N	272	272	272	309	309	309	58	58	58	110	110	110
6	M	403.6	406.7	3.1	398.7	396.0	-2.7	420.1	422.7	2.6	294.2	297.0	2.8
	SD	65.0	85.5	50.3	63.1	66.9	51.9	57.5	54.6	41.4	70.3	63.9	41.5
	N	59	59	59	230	230	230	15	15	15	56	56	56

TABLE VI-G-6

CTBS Reading Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data --White Non-Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	281.1	321.0	39.9	296.2	332.7	36.5
	SD	51.6	55.9	43.1	60.9	62.4	35.7
	N	81	81	81	72	72	72
3	M	340.5	371.8	31.3	354.8	375.9	21.0
	SD	60.0	59.4	36.4	61.7	71.8	45.2
	N	115	115	115	124	124	124
4	M	378.0	406.0	28.0	410.2	434.2	24.0
	SD	61.9	64.0	35.7	90.2	96.1	48.0
	N	119	119	119	102	102	102
5	M	426.8	426.3	-0.6	444.0	459.6	15.6
	SD	78.1	95.6	62.5	95.5	107.5	54.1
	N	58	58	58	60	60	60
6	M	456.0	398.7	-57.3	459.8	464.2	4.4
	SD	68.2	87.0	91.4	77.0	86.9	55.9
	N	42	42	42	60	60	60

TABLE VI-G-7

CTBS Reading Vocabulary Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data --White Non-Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	293.4	336.7	43.3	307.5	347.3	39.7
	SD	47.5	49.4	41.3	56.9	55.2	34.9
	N	80	80	80	71	71	71
3	M	341.7	373.9	32.2	358.9	380.8	21.8
	SD	59.1	61.5	42.3	61.3	69.9	48.4
	N	116	116	116	126	126	126
4	M	384.3	406.6	22.3	404.2	427.4	23.3
	SD	59.8	60.0	40.7	81.3	85.4	51.1
	N	120	120	120	104	104	104
5	M	426.6	430.1	3.5	443.7	463.5	19.8
	SD	69.1	89.0	71.4	93.3	97.5	58.5
	N	59	59	59	60	60	60
6	M	468.0	405.0	-63.0	460.4	472.3	11.9
	SD	77.5	96.3	98.3	81.5	86.4	58.8
	N	42	42	42	61	61	61

TABLE VI-G-8

CTBS Reading Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--Black Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	238.1	288.1	50.0	248.2	294.4	46.2
	SD	49.6	46.9	40.6	64.9	56.2	49.8
	N	47	47	47	67	67	67
3	M	287.4	326.6	39.2	314.7	343.7	28.9
	SD	59.4	63.0	47.1	60.6	55.6	43.4
	N	51	51	51	75	75	75
4	M	351.3	364.4	13.2	364.9	387.3	22.4
	SD	57.2	65.7	39.1	46.4	49.4	27.3
	N	62	62	62	75	75	75
5	M	342.3	351.7	9.4	416.6	434.2	17.6
	SD	55.0	60.3	55.7	77.4	97.5	49.5
	N	38	38	38	47	47	47
6	M	418.5	442.6	24.1	426.3	442.2	15.9
	SD	79.6	69.8	45.3	73.5	58.7	54.0
	N	26	26	26	20	20	20

TABLE VI-G-9

CTBS Vocabulary Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--Black Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	256.6	299.3	42.7	264.7	303.6	38.8
	SD	48.8	44.8	29.9	61.3	54.3	42.0
	N	47	47	47	65	65	65
3	M	295.9	325.7	29.8	319.1	348.9	29.8
	SD	55.2	57.3	49.6	52.3	55.5	48.3
	N	51	51	51	80	80	80
4	M	348.6	368.4	19.9	363.9	386.2	22.3
	SD	52.5	59.7	37.7	49.0	46.6	30.6
	N	62	62	62	76	76	76
5	M	344.7	365.4	20.7	418.6	432.2	13.6
	SD	56.7	54.3	55.0	71.7	87.6	50.3
	N	38	38	38	47	47	47
6	M	422.3	435.3	13.0	423.5	430.3	6.8
	SD	85.6	79.8	46.3	70.4	53.5	56.4
	N	26	26	26	20	20	20

TABLE VI-G-10

CTBS Reading Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data -- Other Students

Grade	Mean (M), Standard Deviation (SD), Number (N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	277.5	320.5	43.0	208.3	263.3	54.9
	SD	67.3	62.4	39.5	61.9	57.1	41.9
	N	32	32	32	77	77	77
3	M	326.1	371.2	45.2	288.7	319.7	31.0
	SD	47.2	42.4	31.6	80.3	70.1	47.4
	N	41	41	41	97	97	97
4	M	329.8	358.3	28.4	323.5	350.9	27.5
	SD	58.5	53.5	28.3	79.4	76.6	36.8
	N	34	34	34	55	55	55
5	M	431.6	422.3	-9.2	345.6	375.9	30.4
	SD	91.0	62.7	94.1	90.8	87.2	48.1
	N	9	9	9	95	95	95
6	M	459.0	378.2	-80.8	321.0	323.9	2.9
	SD	64.8	61.1	106.2	71.4	63.4	46.3
	N	5	5	5	47	47	47

TABLE VI-G-11

CTBS Vocabulary Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data -- Other Students

Grade	Mean (M), Standard Deviation (SD), Number (N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	289.9	326.1	36.2	247.1	266.4	19.3
	SD	59.4	66.9	48.5	46.9	57.4	39.4
	N	32	32	32	77	77	77
3	M	328.6	362.8	34.2	293.7	323.5	29.8
	SD	46.0	37.6	32.1	77.1	67.7	45.3
	N	41	41	41	102	102	102
4	M	326.4	348.3	21.9	318.6	350.5	31.9
	SD	52.9	45.6	33.6	76.7	74.2	39.4
	N	34	34	34	56	56	56
5	M	432.8	419.9	-12.9	350.3	373.9	23.6
	SD	84.3	69.4	100.3	85.8	86.5	47.9
	N	9	9	9	96	96	96
6	M	464.6	376.0	-88.6	320.4	317.2	-3.2
	SD	67.8	64.4	117.1	74.1	68.8	45.0
	N	5	5	5	48	48	48

Again, Title VII/non-Title VII group differences were not formally tested for statistical significance because the objective of the previous analyses was not to estimate program impact but rather to present a descriptive overview of the Impact Study's test results for the samples of students included in the impact analyses. The remainder of this section will discuss the impact of Title VII on achievement growth in English Language Arts.

English Language Arts Achievement: Title VII Program Impact

Tables VI-G-12 and VI-G-13 show the analysis of covariance results for Reading and vocabulary achievement in which Title VII and non-Title VII posttest means were statistically adjusted for the mean pretest and socioeconomic status differences that were present between the groups. Adjusted posttest means for Title VII and non-Title VII Hispanic students are shown in Tables VI-G-14 and VI-G-15. So that adjusted gains at different grade levels could be compared, each difference in adjusted posttest means was divided by the adjusted within-group (pooled) standard deviation appropriate to that analysis. Table V-G-16 contains the partial correlations of posttest score with treatment group membership in which pretest score and socioeconomic status were covaried out of both the posttest (Reading or Vocabulary) and treatment group membership[1]. Tables VI-G-17 and VI-G-18 contain for Title VII and non-Title VII students, respectively, the CTBS national percentiles corresponding to the mean Reading and Vocabulary pretest and posttest scores shown previously in Tables VI-G-1, VI-G-2, and VI-G-6 through VI-G-11. National percentiles for the Reading and Vocabulary pretest and posttest means were also computed separately for the different language dominance groups of Title VII Hispanic students (see Tables VI-G-4 and VI-G-5) and have been placed in Table VI-G-19. Figures VI-G-1 through VI-G-4 presented

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[1] It should be noted that analysis of covairance an partial correlation analysis are not based upon the same statistical or educational model. Although it is possible the results of these procedures may tend to parallel each other, both methods have been used here for the sake of methodological diversity, a recommended approach when analyzing survey data.

TABLE VI-G-12

Summary of Analysis of Covariance Findings--
CTBS Reading Total Score Analyses

Subsample	Grade	df	F	P	Number of Students Non-Title VII	Title VII
Hispanic	2	1,1015	13.081	***	297	722
	3	1,1370	29.624	***	469	905
	4	1,1452	22.261	***	515	941
	5	1,871	3.004	NS	144	731
	6	1,405	7.827	**	68	341
White Non-Hispanic	2	1,149	0.062	NS	81	72
	3	1,235	3.143	NS	115	124
	4	1,217	0.019	NS	119	102
	5	1,114	2.353	NS	58	60
	6	1,98	20.536	***	42	60
Black	2	1,110	0.004	NS	47	67
	3	1,122	0.179	NS	51	75
	4	1,133	2.760	NS	62	75
	5	1,81	.957	NS	38	47
	6	1,42	1.070	NS	26	20
Other	2	1,105	0.491	NS	32	77
	3	1,134	1.777	NS	41	97
	4	1,85	0.026	NS	34	55
	5	1,100	2.130	NS	9	95
	6	1,48	1.178	NS	5	47

* $p \leq .05$
** $p < .01$
*** $p \leq .001$
NS $p > .05$

TABLE VI-G-13

Summary of Analysis of Covariance Findings--CTBS Vocabulary Score Analyses

					Number of Students	
Subsample	**Grade**	**df**	**F**	P	**Non-Title VII**	**Title VII**
Hispanic	2	1,1011	17.797	***	296	719
	3	1,1432	16.969	***	488	948
	4	1,1474	25.450	***	523	955
	5	1,889	0.226	NS	144	749
	6	1,425	0.159	NS	69	360
White Non-Hispanic	2	1,147	0.001	NS	80	71
	3	1,238	1.650	NS	116	126
	4	1,220	.584	NS	120	104
	5	1,115	2.414	NS	59	60
	6	1,99	24.278	***	42	61
Black	2	1,108	0.018	NS	47	65
	3	1,127	0.598	NS	51	80
	4	1,134	0.374	NS	62	76
	5	1,81	0.163	NS	38	47
	6	1,42	0.331	NS	26	20
Other	2	1,105	3.978	*	32	77
	3	1,139	0.107	NS	41	102
	4	1,86	1.710	NS	34	56
	5	1,101	3.075	NS	9	96
	6	1,49	1.590	NS	5	48

* $p \leq .05$
** $p < .01$
*** $p \leq .001$
NS $p > .05$

TABLE VI-G-14

CTBS Reading Total Score Adjusted Posttest Means and Standard Deviations[a] for Title VII and Non-Title VII Hispanic Students

Grade	Adjusted Mean (M') Adjusted pooled within-groups standard deviation (SD'_w) Number (N)	Non-Title VII	Title VII	Title VII/ Non-Title VII Difference	Title VII/ Non-Title VII Difference in SD´ units
2	M'	279.9	270.1	-9.8***	-.25
	SD'_w	39.6	39.6		
	N	297	722		
3	M'	324.1	312.6	-11.5***	-.31
	SD'_w	36.9	36.9		
	N	469	905		
4	M'	346.0	354.5	8.5***	.26
	SD'_w	32.9	32.9		
	N	515	941		
5	M'	393.4	384.2	-9.2	-.16
	SD'_w	57.8	57.8		
	N	144	731		
6	M'	409.3	390.4	-18.9**	-.38
	SD'_w	50.3	50.3		
	N	68	341		

[a] Adjustments were based upon the pooled within-groups raw score regression coefficients from the analysis of covariance analyses. Unadjusted means and standard deviations are shown in Table VI-G-1. The standard deviation used here is the square root of the analysis of covariance adjusted within-groups mean square (i.e., the standard deviation of the pooled within-groups residuals).

LEGEND: *** Adjusted mean difference significant at $p \leq .001$
** Adjusted mean difference significant at $p \leq .01$
* Adjusted mean difference significant at $p \leq .05$

TABLE VI-G-15

CTBS Reading Vocabulary Adjusted Posttest Means and Standard Deviations[a] for Title VII and Non-Title VII Hispanic Students

Grade	Adjusted Mean (M') Adjusted pooled within-groups standard deviation (SD'_w) Number (N)	Non-Title VII	Title VII	Title VII/ Non-Title VII Difference	Title VII/ Non-Title VII Difference in SD´ units
2	M'	287.6	276.2	-11.4***	-.29
	SD'_w	39.0	39.0		
	N	296	719		
3	M'	321.1	312.0	-9.1***	-.23
	SD'_w	39.2	39.2		
	N	488	948		
4	M'	339.9	349.4	9.5***	.27
	SD'_w	34.6	34.6		
	N	523	955		
5	M'	368.0	366.1	-1.9	-.04
	SD'_w	43.5	43.5		
	N	144	749		
6	M'	382.6	385.1	2.5	.05
	SD'_w	47.2	47.2		
	N	69	360		

[a] Adjustments were based upon the pooled within-groups raw score regression coefficients from the analysis of covariance analyses. Unadjusted means and standard deviations are shown in Table VI-G-2. The standard deviation used here is the square root of the analysis of covariance adjusted within-groups mean square (i.e., the standard deviation of the pooled within-groups residuals).

LEGEND: *** Adjusted mean difference significant at $p \leq .001$
** Adjusted mean difference significant at $p \leq .01$
* Adjusted mean difference significant at $p \leq .05$

TABLE VI-G-16

Partial Correlations Between Posttest and Title VII/Non-Title VII Group Membership[a] --

Controlling for Pretest and Socioeconomic Status (SES)

Grade	Partial Correlations with Title VII/Non-Title VII Group Membership															
	Hispanic Students				White Non-Hispanic Students				Black Students				Other Students			
	CTBS Reading	CTBS Vocabulary	CTBS Mathematics Computation	Attitude Toward School	CTBS Reading	CTBS Vocabulary	CTBS Mathematics Computation	Attitude Toward School	CTBS Reading	CTBS Vocabulary	CTBS Mathematics Computation	Attitude Toward School	CTBS Reading	CTBS Vocabulary	CTBS Mathematics Computation	Attitude Toward School
2	-.11*** 1019	-.13*** 1015	.07* 1019	.05 1010	-.02 153	.00 151	.13 158	.09 149	.01 114	-.01 112	-.05 106	.13 101	-.07 109	-.19* 109	.09 113	.14 102
3	-.15*** 1374	-.11*** 1436	.03 1404	.01 1429	-.11 239	-.08 242	-.10 216	.04 222	-.04 126	.07 131	.19* 125	.04 137	-.11 138	-.03 143	-.08 144	-.16 146
4	.12*** 1456	.13*** 1478	.05* 1414	.03 1453	-.01 221	.05 224	.04 219	.10 224	.14 137	.05 138	.00 146	-.07 143	-.02 89	.14 90	.12 93	.13 94
5	-.06 875	-.02 893	.07* 868	.10** 882	.14 118	.14 119	.25** 120	.07 108	.11 85	.04 85	-.03 82	-.22* 84	.14 104	.17 105	.19 106	.00 105
6	-.14** 409	.02 429	.08 414	.14** 414	.42*** 102	.44*** 103	-.14 104	.03 103	-.16 46	-.09 46	.22 45	-.13 46	.15 52	.18 53	-.03 52	.15 51

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a. Title VII group membership was a dummy variable coded as follows: Title VII = 2, Non-Title VII = 1.

* p ≤ .05

** p ≤ .01

*** p ≤ .001

TABLE VI-G-17

National Percentiles (NP) for Title VII CTBS Reading Total, Vocabulary, and Mathematics Computation--Pretest and Posttest Means

Outcome Variables	Grade	Title VII Student Subsample				Black Students		Other Students	
		Hispanic Students		White Non-Hispanic Students					
		Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]
CTBS Reading Total Score	2	12	17	49	54	17	30	5	15
	3	19	17	54	48	30	31	18	20
	4	19	19	57	56	33	33	16	18
	5	16	18	54	51	41	39	14	17
	6	15	15	46	41	31	33	5	4
CTBS Vocabulary Score	2	18	18	55	60	27	32	18	14
	3	19	17	56	52	32	34	20	22
	4	18	19	56	58	34	35	15	20
	5	16	13	56	54	43	39	15	16
	6	17	13	47	43	31	26	5	4
CTBS Mathematics Computation Score	2	26	41	59	69	24	33	16	43
	3	28	36	44	48	28	35	37	43
	4	40	47	58	70	31	43	44	53
	5	30	32	43	44	37	40	25	29
	6	34	37	39	37	34	49	27	28

[a] Based upon published norms for the CTBS/S or CTBS/T for testing implemented at the beginning of the school year (approximately mid-October)

[b] Based upon published norms for the CTBS/S or CTBS/T for testing implemented at the end of the school year (approximately mid-April)

TABLE VI-G-18

National Percentiles (NP) for Non-Title VII CTBS Reading Total, Vocabulary, and Mathematics Computation--Pretest and Posttest Means

Outcome Variables	Grade	Non-Title VII Student Subsample							
		Hispanic Students		White Non-Hispanic Students		Black Students		Other Students	
		Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]	Pretest NP[a]	Posttest NP[b]
CTBS Reading Total Score	2	14	24	38	47	13	27	35	47
	3	22	23	45	46	18	23	37	45
	4	20	17	40	42	27	24	18	21
	5	22	27	47	35	13	11	49	33
	6	21	25	44	18	28	33	45	13
CTBS Vocabulary Score	2	19	24	45	53	22	30	43	46
	3	21	21	45	48	21	23	37	41
	4	19	16	45	46	27	27	17	19
	5	22	17	46	38	12	13	50	33
	6	22	15	50	18	30	28	49	11
CTBS Mathematics Computation Score	2	30	38	34	50	21	33	48	54
	3	30	36	31	44	19	20	59	70
	4	34	42	44	57	21	33	33	40
	5	39	34	36	24	18	25	45	26
	6	34	32	34	38	28	29	41	39

[a] Based upon published norms for the CTBS/S or CTBS/T for testing implemented at the beginning of the school year (approximately mid-October)

[b] Based upon published norms for the CTBS/S or CTBS/T for testing implemented at the end of the school year (approximately mid-April)

TABLE VI-G-19

National Percentiles (NP) for CTBS Reading Total, Vocabulary, and Mathematics Computation Means by Judged Language Dominance Group--Title VII Hispanic Students

		Judged Language Dominance Group							
		Monolingual English		English-Dominant Bilingual		Spanish-Dominant Bilingual		Monolingual Spanish	
Outcome Variable	Grade	Pretest NP	Posttest NP	Pretest NP	Posttest NP	Pretest NP	Posttest NP	Pretest NP[a]	Posttest NP[a]
CTBS Reading Total Score	2	15	27	25	29	5	18	5	6
	3	25	21	25	24	17	13	4	4
	4	30	28	22	24	14	15	3	3
	5	22	18	19	27	18	25	3	3
	6	20	21	18	18	33	36	2	3
CTBS Vocabulary Score	2	22	28	27	28	14	18	10	7
	3	25	23	26	23	18	15	4	4
	4	30	28	23	23	14	15	3	3
	5	23	16	20	17	18	16	3	3
	6	23	19	22	16	29	24	2	2
CTBS Mathematics Computation Score	2	28	38	37	46	19	49	18	34
	3	29	40	32	36	28	39	20	33
	4	37	48	42	48	49	58	31	41
	5	32	33	33	33	30	31	19	26
	6	40	34	34	38	45	38	23	31

[a] Monolingual Spanish students at all grade levels took the CTBS/S, Level C, as both a pretest and posttest. CTBS norms used here were those for the form and level taken by all other judged language dominance groups at a particular grade level. The means upon which the national percentiles are based are presented in the section on Mathematics Achievement (Table VI-G-22).

previously are also relevant to these analyses. *A review of all of these analyses indicates the following findings and trends regarding the impact of Title VII on English Language Arts achievement as measured by Reading and Vocabulary standardized achievement test scores.*

Hispanic students: findings and trends. Statistically significant differences ($p \leq .001$) between the adjusted Reading and vocabulary achievement posttest means for Title VII and non-Title VII Hispanic students were present in the analyses for grades 2, 3, and 4. Title VII/non-Title VII differences in Reading achievement were also statistically significant ($p \leq .01$) for Hispanic sixth-graders. These same findings for Hispanic students were also present in the partial correlation analysis (see Table VI-G-16). However, Title VII had the higher adjusted posttest mean in only two of these six statistically significant differences, those for Reading and vocabulary during the fourth grade (see Table VI-G-14 and VI-G-15 for the adjusted means).

Relative to the mean posttest performance expected of Title VII Hispanic students on the basis of their pretest mean's national percentile rank (see Table VI-G-17), it would appear that gains were occurring only in grades 2 and 5 (in English Reading) and in grade 4 (in English vocabulary).

The particular combination of results for Hispanic students suggests the following conclusions regarding the impact of Title VII on English Language Arts. First, Title VII projects seem to produce greater growth in Reading achievement than that expected from CTBS national norms during the second grade; however, the growth of non-Title VII Hispanic second-grade students was even greater. Second, the appearance of the positive results favoring Title VII for fourth-grade Hispanic students (based upon the Title VII/non-Title VII comparative analyses) was probably due to the fact that the Reading and vocabulary performance of Title VII Hispanic students was fairly stable (relative to national norms) while that for non-Title VII Hispanic students declined (relative to their pretest national percentile rank). If the performance of the non-Title VII fourth-grade Hispanic students sampled by the Impact Study is representative of that which occurs for these kinds of students, this finding would suggest that the program has positive impact on English Language Arts only in the fourth grade. This may represent a meaningful and expected outcome of longitudinal participation in Title VII (especially since many Title VII fourth-graders had been exposed to bilingual education classes in previous years). Third, relative to CTBS national norms, the Reading and vocabulary achievement of Title VII Hispanic students at posttest time did not differ substantially from that at pretest time (relative to national norms), nor was there any apparent consistent trend across grades.

In general, then, the achievement gains of Title VII Hispanic students were not superior to those of non-Title VII Hispanic students in English Language Arts, the only possible exception being the gains shown by students in grade 4. In fact, there was evidence that fall 1975 to spring 1976 gains in English Language Arts for non-Title VII Hispanic students were greater than those shown by Title VII Hispanic students in grades 2 and 3.

Title VII Hispanic students: findings and trends for limited English-speaking ability students. The Reading and vocabulary national percentile rank of Title VII Hispanic students judged by their teachers to be Spanish monolingual did not show any consistent pattern of change between pretest and posttest across grades. If any trend was present, it was that there was no change in relative position between pretest and posttest. Relative to CTBS national norms, Title VII Hispanic students in all language dominance groups in grade 2 increased their standing on Reading achievement between pretest and posttest. This general trend for grade 2 was not present with respect to vocabulary achievement where the relative standing of Title VII Spanish monolingual students declined somewhat relative to CTBS national norms.

By way of summary, the most notable findings with respect to the Reading and vocabulary performance of limited English-speaking Title VII Hispanic students was that their achievement in English Reading and vocabulary showed no substantial changes in relative standings with respect to CTBS national norms between pretest and posttest. Although their level of proficiency in reading English may not have increased during the 1975-76 school year, this trend would suggest that, at the very least, the limited English-speaking Hispanic students present

present in Title VII classrooms were not, on the average, "losing ground" in terms of English Language Arts skills[1].

White non-Hispanic students: findings and trends. Due to a number of technical statistical problems regarding the use of analysis of covariance, the results of the Title VII/non-Title VII comparative analyses shown in Tables VI-G-12 and VI-G-13 were not interpreted. Inspection of the CTBS national percentiles corresponding to the white non-Hispanic group Reading and Vocabulary pretest and posttest means showed that the relative standing of Title VII white non-Hispanics on CTBS national norms usually declined in all grades but grade 2.

Black students: findings and trends. Again, the presence of various technical and statistical problems greatly limits the validity of the Title VII/non-Title VII comparative analyses. Inspection of the Title VII CTBS national percentile ranks for the Reading and vocabulary pretest and posttest means indicated that no consistent and compelling pattern of results was present for the small numbers of Title VII black students sampled by the study. The only trend that was at all apparent was that second- and third-grade Title VII black students tended to show small gains in English Reading and vocabulary relative to CTBS norms.

Other students: findings and trends. The numbers of grade 5 and 6 students classified as "Other" were exceedingly small. Therefore, their results are not considered in the following discussion. The CTBS norm sample comparisons showed that the small numbers of Title VII "Other" students in grades 3 and 4 tended to increase their relative standing in English Reading and vocabulary between pretest and posttest.

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[1] It should be noted that neither the CTBS nor any other achievement test is likely to be very sensitive to changes demonstrated by groups of students scoring at the extremes of the test. However, the test publisher, CTB/McGraw-Hill, claims that the percentile ranks for extreme scores were identified accurately because of the size (and presumably the representativeness) of the standardization sample (1974b, p.5).

Mathematics Achievement: Simple Pretest-to-Posttest Gains

Before discussing the findings for Mathematics, it is necessary to remind the reader that the criterion measure in Mathematics was the Mathematics Computation test of the Comprehensive Tests of Basic Skills. This particular score was selected as a criterion variable because the skills it measured were not highly language dependent. To further ensure that language skills would not interfere with optimal performance on the Mathematics tests, English monolingual and English-dominant bilingual students were given the standard English version of these tests while Spanish monolingual and Spanish-dominant bilingual students were given Spanish translations. Test instructions were also given in Spanish to those students for whom it was necessary.

Hispanic students. Table VI-G-20 shows the mean pretest, posttest, and posttest-minus-pretest gains in Mathematics Computation obtained by the Title VII and non-Title VII Hispanic students sampled by the Impact Study. Figure VI-G-5 displays these means pictorially. At a descriptive level, Table VI-G-20 shows that (1) the posttest mean was always higher than the pretest mean for each Title VII and non-Title VII analysis sample and (2) the simple posttest minus pretest gains in Mathematics Computation for the Hispanic students was always larger for Title VII than for non-Title VII participants. Table VI-G-21 shows each Title VII and each non-Title VII mean gain expressed in units of its own standard deviation. As was found in the case of Reading and vocabulary achievement, the largest average pretest to posttest gains seem to be occurring in the earlier grades.

Limited English-speaking Hispanic students. Table VI-G-22 shows the average CTBS Mathematics Computation pretest, posttest, and simple pretest-to-posttest gains for the Hispanic Title VII students in each of four judged language dominance strata. Fairly large gains were demonstrated by all language dominance groups and grades, including those composed Spanish monolingual students. Means have been plotted in Figure VI-G-6 for Spanish monolingual students.

TABLE VI-G-20

CTBS Mathematics Computation Score Pretest (Fall 1975)
and Posttest (Spring 1976) Means, Standard
Deviations, and Numbers of Students for All Students
with Pretest/Posttest Data--Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	261.9	292.9	31.0	258.4	295.5	37.1
	SD	33.3	36.0	30.4	33.4	37.0	33.9
	N	291	291	291	728	728	728
3	M	308.4	344.4	36.0	306.0	345.2	39.2
	SD	39.3	46.0	34.3	36.2	39.8	36.3
	N	462	462	462	942	942	942
4	M	355.7	381.4	25.6	361.8	389.0	27.2
	SD	45.8	48.3	31.6	46.7	44.7	34.9
	N	464	464	464	950	950	950
5	M	397.3	407.5	10.2	383.0	404.7	21.7
	SD	53.9	68.3	44.2	49.3	57.8	43.1
	N	141	141	141	727	727	727
6	M	420.2	426.0	5.8	419.5	436.5	17.1
	SD	67.9	68.4	42.3	53.2	57.8	46.5
	N	71	71	71	343	343	343

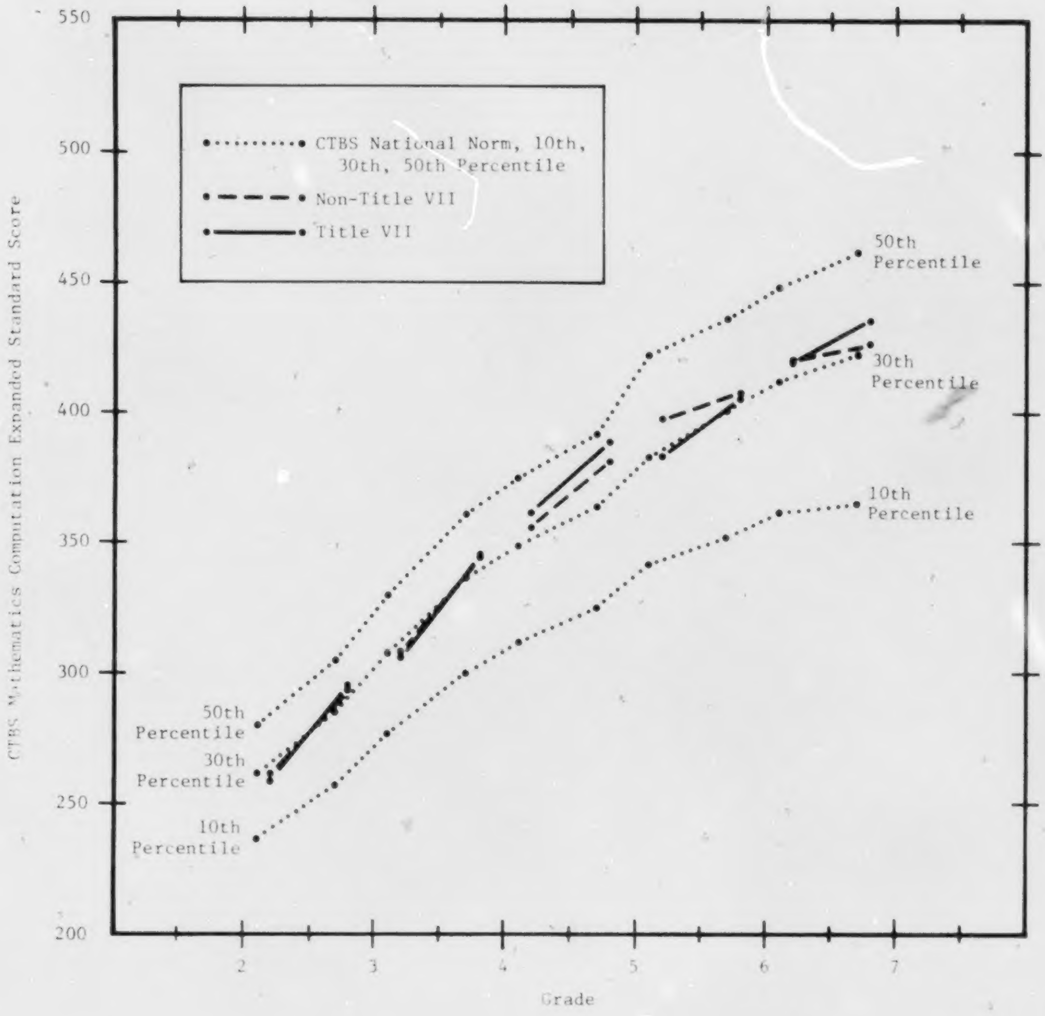

Figure VI-G-5 Mathematics Computation Achievement Pretest and Posttest Means for Title VII and Non-Title VII Groups--Hispanic Students

TABLE VI-G-21

Mean CTBS Mathematics Computation Growth Scores Expressed in Growth Score Standard Deviation Units[a]--Hispanic Student Analyses

Grade	CTBS Mathematics Computation Mean Growth Score	
	Non-Title VII	Title VII
2	1.02	1.09
3	1.05	1.08
4	.81	.78
5	.23	.50
6	.14	.37

---

[a] Each mean gain was standardized by use of the formula,

$$Z_g = \frac{M_2 - M_1}{S_g}$$

where,

Z_g = standardized mean gain,

M_2 = posttest mean,

M_1 = pretest mean, and

S_g = standard deviation of distribution of student gain scores in which gain equals posttest minus pretest.

TABLE VI-G-22

CTBS Mathematics Computation Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Number of Students by Judged Language Dominance Group for Title VII Hispanic Students with Pretest/Posttest Data

Grade	Mean (M) Standard Deviations (SD) Number (N)	English Monolingual			English-Dominant Bilingual			Spanish-Dominant Bilingual			Spanish Monolingual		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	259.5	292.5	33.0	269.1	300.7	31.6	249.3	303.7	54.4	248.5	289.3	40.8
	SD	32.3	37.3	31.2	33.0	33.9	31.6	31.9	37.4	33.3	31.1	38.9	35.9
	N	127	127	127	281	281	281	63	63	63	257	257	257
3	M	307.4	349.6	42.2	310.2	344.1	33.9	305.8	348.3	42.5	295.1	341.1	46.0
	SD	34.5	39.3	33.9	34.1	40.8	35.5	39.2	34.6	36.1	39.9	39.0	39.6
	N	265	265	265	432	432	432	44	44	44	201	201	201
4	M	358.5	389.9	31.4	365.0	389.7	24.7	373.5	402.2	28.7	350.8	379.6	28.8
	SD	41.3	42.9	35.3	46.8	44.6	34.9	49.7	40.7	37.8	50.6	47.5	32.0
	N	227	227	227	520	520	520	60	60	60	143	143	143
5	M	385.8	406.2	20.4	387.0	407.1	20.1	382.5	403.3	20.8	363.6	393.7	30.1
	SD	44.3	52.4	41.6	49.5	60.4	44.0	53.8	65.0	42.0	55.3	59.8	44.3
	N	278	278	278	299	299	299	50	50	50	100	100	100
6	M	431.6	432.0	0.4	419.4	440.4	21.0	438.4	440.2	1.8	397.7	424.2	26.5
	SD	57.8	66.5	47.7	49.4	51.7	42.8	55.0	70.0	42.2	56.2	64.9	56.2
	N	59	59	59	212	212	212	21	21	21	51	51	51

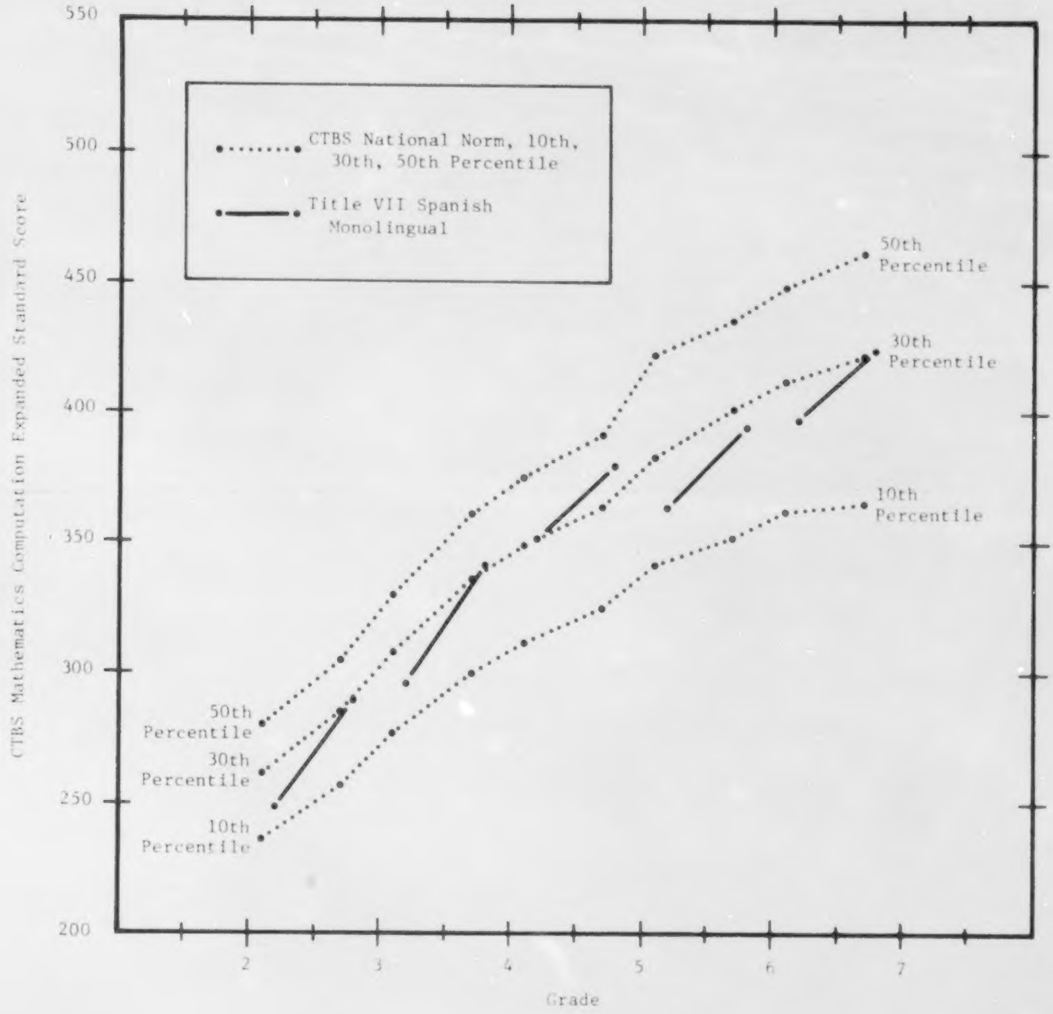

Figure VI-G-6 Mathematics Computation Achievement Pretest and Posttest Means for Title VII Groups--Spanish Monolingual Hispanic Students

TABLE VI-G-23

CTBS Mathematics Computation Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--White Non-Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	266.1	305.2	39.1	286.7	324.2	37.4
	SD	30.9	31.8	27.6	37.5	32.8	34.6
	N	88	88	88	70	70	70
3	M	309.7	354.5	44.8	323.9	359.2	35.3
	SD	45.4	42.1	33.2	36.8	45.9	37.0
	N	102	102	102	114	114	114
4	M	367.5	400.7	33.2	385.4	415.7	30.3
	SD	38.3	42.8	31.6	45.1	41.9	36.0
	N	111	111	111	108	108	108
5	M	392.8	389.1	-3.6	403.4	425.7	22.3
	SD	49.4	68.5	66.6	62.3	69.5	44.1
	N	57	57	57	63	63	63
6	M	418.6	440.0	21.4	427.8	437.3	9.5
	SD	58.6	70.5	37.9	51.2	73.2	53.5
	N	43	43	43	61	61	61

TABLE VI-G-24

CTBS Mathematics Computation Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data --Black Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	252.4	288.4	36.1	256.3	288.0	31.7
	SD	33.4	40.6	33.5	27.2	34.0	32.7
	N	40	40	40	66	66	66
3	M	294.8	321.0	26.2	305.8	343.2	37.4
	SD	29.6	40.2	30.4	40.2	43.0	33.0
	N	53	53	53	72	72	72
4	M	334.7	368.6	33.9	350.1	383.0	32.9
	SD	34.1	51.4	37.6	38.8	43.2	35.7
	N	65	65	65	81	81	81
5	M	359.5	391.9	32.4	393.7	418.9	25.2
	SD	51.9	49.3	33.7	50.6	61.7	44.8
	N	38	38	38	44	44	44
6	M	408.7	420.0	11.3	420.2	460.7	40.5
	SD	42.0	50.3	20.6	57.5	75.6	58.8
	N	27	27	27	18	18	18

TABLE VI-G-25

CTBS Mathematics Computation Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--Other Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	278.3	309.5	31.2	245.6	297.6	52.0
	SD	31.9	32.3	29.7	36.5	40.5	37.9
	N	32	32	32	81	81	81
3	M	339.4	387.0	47.6	315.7	352.6	36.8
	SD	35.5	31.3	25.6	39.7	45.2	33.1
	N	41	41	41	103	103	103
4	M	353.5	378.0	24.5	367.9	396.3	28.3
	SD	50.6	49.6	23.8	47.5	45.3	36.9
	N	34	34	34	59	59	59
5	M	406.4	394.0	-12.4	376.0	398.4	22.3
	SD	56.4	94.2	82.7	62.7	67.0	64.8
	N	8	8	8	98	98	98
6	M	432.4	442.0	9.6	405.7	419.3	13.5
	SD	61.4	74.9	36.3	51.5	50.3	35.8
	N	5	5	5	47	47	47

TABLE VI-G-26

Summary of Analysis of Covariance Findings - CTBS Mathematics Computation Score Analyses

Subsample	Grade	df	F	P	Number of Students Non-Title VII	Title VII
Hispanic	2	1,1015	5.666	*	291	728
	3	1,1400	0.887	NS	462	942
	4	1,1410	3.742	*	464	950
	5	1,864	4.876	*	141	727
	6	1,410	2.965	NS	71	343
White Non-Hispanic	2	1,154	2.715	NS	88	70
	3	1,212	2.013	NS	102	114
	4	1,215	0.377	NS	111	108
	5	1,116	8.004	**	57	63
	6	1,100	2.086	NS	43	61
Black	2	1,102	0.213	NS	40	66
	3	1,121	4.331	*	53	72
	4	1,142	0.000	NS	65	81
	5	1,78	0.052	NS	38	44
	6	1,41	2.081	NS	27	18
Other	2	1,109	0.825	NS	32	81
	3	1,140	0.881	NS	41	103
	4	1,89	1.341	NS	34	59
	5	1,102	3.671	NS	8	98
	6	1,48	.032	NS	5	47

*	$p \leq .05$
**	$p < .01$
***	$p \leq .001$
NS	$p > .05$

TABLE VI-G-27

CTBS Mathematics Computation Adjusted Posttest Means and Standard Deviations[a] for Title VII and Non-Title VII Hispanic Students

Grade	Adjusted Mean (M') Adjusted pooled within-groups standard deviation (SD'_w) Number (N)	Non-Title VII	Title VII	Title VII/ Non-Title VII Difference	Title VII/ Non-Title VII Difference in SD' units
2	M'	291.2	296.2	5.0*	.17
	SD'_w	30.3	30.3		
	N	291	728		
3	[illegible]	343.8	345.5	1.7	.05
	SD'_w	33.4	33.4		
	N	462	942		
4	M'	384.2	387.6	3.4*	.11
	SD'_w	31.2	31.2		
	N	464	950		
5	M'	397.8	406.6	8.8*	.21
	SD'_w	42.5	42.5		
	N	141	727		
6	M'	426.7	436.4	9.7	.23
	SD'_w	43.0	43.0		
	N	71	343		

[a] Adjustments were based upon the pooled within-groups raw score regression coefficients from the analysis of covariance analyses. Unadjusted means and standard deviations are shown in Table VI-G-20. The standard deviation used here is the square root of the analysis of covariance adjusted within-groups mean square (i.e., the standard deviation of the pooled within-groups residuals).

LEGEND: * Adjusted mean difference significant at $p \leq .05$.

White non-Hispanic, black, and other students. Tables VI-G-23, VI-G-24, and VI-G-25 contain the mean pretest, posttest, and posttest-minus-pretest gain scores for white non-Hispanic, black, and other students, respectively. No highly consistent pattern (across grade levels) in the mean growth scores was apparent in these results. However, there was a slight trend for (1) the mean gains of non-Title VII, white non-Hispanic students to exceed those for Title VII white non-Hispanic and (2) the means of Title VII "Other" students to exceed those for non-Title VII "Other" students.

Mathematics Achievement: Title VII Program Impact

Table VI-G-26 contains the results of the impact analyses based on the analysis of covariance. Adjusted Mathematics Computation posttest means for Title VII and non-Title VII Hispanic students are shown in Table VI-G-27. Examination of these tables, the partial correlations presented earlier in Table VI-G-16, the CTBS national percentiles corresponding to the unadjusted pretest and posttest means (see Table VI-G-17 and Table VI-G-18 presented previously), and the national percentiles corresponding to the mean pretest and posttest scores for Title VII limited English-speaking Hispanic students (see Table VI-G-19 presented earlier) indicated the following findings and conclusions regarding Title VII program impact on Mathematics achievement as measured by the CTBS Mathematics Computation test.

Hispanic students: findings and trends. Statistically significant Title VII/non-Title VII differences in Mathematics Computation were present for grades 2, 4, and 5. Furthermore, all adjusted mean differences favored Title VII participants in all grades. Inspection of the CTBS national percentiles corresponding to mean pretest and mean posttest performance showed that the Mathematics Computation posttest performance for Title VII Hispanic students was greater than their relative standing on the pretest at all grade levels.

Title VII Hispanic students: findings and trends for limited English-speaking students. Mean gains in Mathematics Computation obtained by Hispanic Title VII students were also present for Hispanic students who were judged by their teachers to have had limited skills in English. Results given in Table VI-G-19 indicate that Spanish monolingual students at all grade levels demonstrated pretest/posttest gains relative to their standing on CTBS national norms for Mathematics Computation.

White non-Hispanic, black, and other students: findings and trends. Because the analysis samples for these groups were small and because of the presence of statistical problems, results of the Title VII/non-Title VII comparative analyses were not interpreted. Instead, the relative standing of the posttest and pretest means on CTBS national norms was examined to provide some benchmark against which pretest/posttest mean differences in Mathematics Computation could be evaluated. Although the stability of these results and their generality are limited because of the small sample sizes, white non-Hispanic, black, and other Title VII students in grades 2 through 5 demonstrated positive gains (relative to national norms) in Mathematics Computation.

Summary of trends in Mathematics achievement. To summarize, these data suggest that Hispanic students, in general, were faring well in both Title VII and in non-Title VII classrooms with respect to the acquisition of computation skills in Mathematics. It would also appear, however, that Hispanic Title VII students usually performed better than non-Title VII students, especially in grades 2, 4, and 5. Gains shown by Hispanic Title VII limited English-speaking ability students (relative to national norms) were consistently positive.

Attitude Toward School: Gains and Title VII Program Impact

The measure of school-related attitudes that was selected for use as a criterion variable in these analyses was a Student Questionnaire scale called Attitude Toward School. In brief, it is a composite measure based upon the student's attitude toward school and associated aspects of the school environment (the classroom, playground, group study, individual study). Tables VI-G-28 through VI-G-31 contain the Title VII/non-Title VII pre-attitude and post-attitude mean scale scores for Hispanic, white non-Hispanic, black, and other students. The results

TABLE VI-G-28

Attitude Toward School Pre-Attitude (Fall 1975) and Post-Attitude (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data---Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	6.3	6.3	0.0	6.5	6.4	-0.1
	SD	1.2	1.2	1.5	1.3	1.2	1.5
	N	287	287	287	723	723	723
3	M	6.4	6.4	0.0	6.3	6.4	0.1
	SD	1.2	1.2	1.4	1.2	1.1	1.4
	N	493	493	493	936	936	936
4	M	6.5	6.5	0.0	6.5	6.5	0.0
	SD	1.1	1.1	1.1	1.1	1.1	1.2
	N	515	515	515	938	938	938
5	M	6.3	6.1	-0.2	6.4	6.4	0.0
	SD	1.0	1.1	1.1	1.1	1.0	1.1
	N	140	140	140	742	742	742
6	M	6.4	6.1	-0.2	6.3	6.4	0.1
	SD	1.1	1.2	1.0	1.1	1.0	1.1
	N	71	71	71	343	343	343

TABLE VI-G-29

Attitude Toward School Pre-Attitude (Fall 1975) and Post-Attitude (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data --White Non-Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	6.5	6.4	-0.1	6.2	6.4	0.2
	SD	1.1	1.2	1.4	1.0	1.0	1.2
	N	78	78	78	71	71	71
3	M	6.4	6.3	-0.1	6.3	6.4	0.1
	SD	1.2	1.0	1.2	1.0	1.0	1.3
	N	112	112	112	110	110	110
4	M	6.4	6.4	0.0	6.4	6.2	-0.2
	SD	1.1	1.0	1.2	1.2	1.1	1.3
	N	119	119	119	105	105	105
5	M	6.3	6.4	0.1	6.2	6.5	0.3
	SD	0.9	0.8	1.1	1.2	1.0	1.5
	N	49	49	49	59	59	59
6	M	6.1	6.0	-0.1	6.1	6.1	0.0
	SD	1.2	1.0	1.2	1.0	1.2	1.0
	N	43	43	43	60	60	60

TABLE VI-G-30

Attitude Toward School Pre-Attitude (Fall 1975) and Post-Attitude (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--Black Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	6.7	5.9	-0.7	6.2	6.2	0.0
	SD	1.0	1.1	1.3	1.3	1.2	1.6
	N	43	43	43	58	58	58
3	M	6.3	6.3	0.0	6.3	6.4	0.1
	SD	1.2	1.1	1.3	1.2	1.1	1.5
	N	57	57	57	80	80	80
4	M	6.5	6.4	-0.1	6.5	6.3	-0.2
	SD	1.1	1.1	1.2	1.2	1.0	1.1
	N	66	66	66	77	77	77
5	M	6.4	6.8	0.4	6.7	6.5	-0.2
	SD	1.0	0.9	1.2	0.9	0.9	1.1
	N	38	38	38	46	46	46
6	M	6.7	6.6	-0.1	6.4	6.1	-0.2
	SD	1.1	0.8	1.3	1.1	1.2	1.1
	N	27	27	27	19	19	19

TABLE VI-G-31

Attitude Toward School Pre-Attitude (Fall 1975) and Post-Attitude (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data--Other Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth
2	M	7.3	6.5	-0.8	6.6	6.7	0.1
	SD	1.0	1.0	1.2	1.4	1.2	1.4
	N	28	28	28	74	74	74
3	M	6.2	6.7	0.5	6.5	6.4	-0.1
	SD	1.0	0.9	1.3	1.2	1.2	1.3
	N	40	40	40	106	106	106
4	M	6.3	6.3	0.0	6.5	6.7	0.2
	SD	1.1	1.1	1.3	1.2	1.0	1.4
	N	35	35	35	59	59	59
5	M	6.1	6.5	0.4	6.4	6.6	0.2
	SD	1.3	0.9	1.5	1.1	0.9	1.1
	N	7	7	7	98	98	98
6	M	5.9	6.1	0.2	6.6	6.7	0.1
	SD	1.7	1.0	1.0	0.9	0.8	0.9
	N	5	5	5	46	46	46

indicate that large attitude shifts did not occur during the interval between pretesting and posttesting during the 1975-76 school year. Impact analyses based upon analyses of covariance (see Tables VI-G-32 and VI-G-33) and partial correlations (see Table VI-G-16 presented earlier) showed that statistically significant adjusted post-attitude mean differences (Title VII versus non-Title VII) occurred only for fifth- and sixth-grade Hispanic students (where the gains favored Title VII students). However, the apparent gains for Title VII fifth- and sixth-grade Hispanic students were largely a result of a slight decline in the attitudes of the relatively small numbers of non-Title VII Hispanic students with whom they were compared. Therefore, the conclusion that seems to be warranted is that participation in Title VII-supported classrooms did not tend to produce more positive school-related attitudes as measured by the Attitude Toward School scale.

Spanish Language Arts Achievement

In Table VI-G-34 are presented the pretest and posttest results for the Spanish Reading achievement of Hispanic students. Comparative analyses of the gains were not feasible because (1) the number of non-Title VII comparison students completing the Prueba de Lectura was exceedingly small and (2) no appropriate normative information was available for the particular test score used in these analyses (a total raw score based upon only those items judged to be lexically appropriate for students of various Hispanic backgrounds). The results presented show that posttest Spanish achievement did exceed that measured by the pretest for Title VII Hispanic students, especially in grades 2, 3, and 4. (The smaller pretest, posttest, and average gains obtained by students in grades 5 and 6 were undoubtedly due to the fact that these students were given a more difficult level of the Prueba de Lectura than were students in the lower grades.) Fall 1975 to spring 1976 growth in Spanish Reading achievement was indicated for Hispanic Title VII students because all pretest/posttest mean differences for Title VII students were significant ($p \leq .001$). However, the lack of a meaningful comparison group did not permit such gains to be attributed to the impact of membership in a Title VII project.

TABLE VI-G-32

Summary of Analysis of Covariance Findings-- Attitude Toward School Analyses

Subsample	Grade	df	F	P	Number of Students Non-Title VII	Title VII
Hispanic	2	1,1006	2.345	NS	287	723
	3	1,1425	0.120	NS	493	936
	4	1,1449	1.065	NS	515	938
	5	1,878	9.214	**	140	742
	6	1,410	8.578	**	71	343
White Non-Hispanic	2	1,145	1.194	NS	78	71
	3	1,218	0.270	NS	112	110
	4	1,220	2.035	NS	119	105
	5	1,104	0.491	NS	49	59
	6	1,99	0.112	NS	43	60
Black	2	1,97	1.746	NS	43	58
	3	1,133	0.173	NS	57	80
	4	1,139	0.671	NS	66	77
	5	1,80	3.882	*	38	46
	6	1,42	0.762	NS	27	19
Other	2	1,98	1.911	NS	28	74
	3	1,142	3.709	NS	40	106
	4	1,90	1.548	NS	35	59
	5	1,101	0.000	NS	7	98
	6	1,47	1.058	NS	5	46

* $p \leq .05$
** $p < .01$
*** $p \leq .001$
NS $p > .05$

TABLE VI-G-33

Attitude Toward School Adjusted Posttest Means and Standard Deviations[a] for Title VII and Non-Title VII Hispanic Students

Grade	Adjusted Mean (M') Adjusted pooled within-groups standard deviation (SD'_w) Number (N)	Non-Title VII	Title VII	Title VII/ Non-Title VII Difference	Title VII/ Non-Title VII Difference in SD' units
2	M'	6.3	6.4	.1	.09
	SD'_w	1.1	1.1		
	N	287	723		
3	M'	6.4	6.4	.0	.00
	SD'_w	1.1	1.1		
	N	493	936		
4	M'	6.5	6.5	.0	.00
	SD'_w	1.0	1.0		
	N	515	938		
5	M'	6.2	6.4	.2**	.22
	SD'_w	0.9	0.9		
	N	140	742		
6	M'	6.1	6.4	.3**	.33
	SD'_w	0.9	0.9		
	N	71	343		

[a] Adjustments were based upon the pooled within-groups raw score regression coefficients from the analysis of covariance analyses. Unadjusted means and standard deviations are shown in Table VI-G-27. The standard deviation used here is the square root of the analysis of covariance adjusted within-groups mean square (i.e., the standard deviation of the pooled within-groups residuals).

LEGEND: ** Adjusted mean difference significant at $p \leq .01$.

TABLE VI-G-34

Prueba de Lectura Total Score Pretest (Fall 1975) and Posttest (Spring 1976) Means, Standard Deviations, and Numbers of Students for All Students with Pretest/Posttest Data---Hispanic Students

Grade	Mean(M), Standard Deviation(SD), Number(N)	Non-Title VII Comparison			Title VII		
		Pretest	Posttest	Growth	Pretest	Posttest	Growth[a]
2	M	11.5	17.0	5.5	20.4	26.4	6.0
	SD	9.3	5.1	8.2	9.1	11.3	9.0
	N	13	13	13	357	357	357
3	M	22.1	25.9	3.8	27.2	32.7	5.5
	SD	12.2	9.9	6.7	11.2	12.3	7.9
	N	9	9	9	477	477	477
4	M	30.6	33.8	3.2	34.8	40.1	5.3
	SD	16.1	14.6	7.2	12.8	12.6	7.5
	N	25	25	25	412	412	412
5	M	18.5	19.4	0.9	17.1	19.0	1.8
	SD	4.3	3.1	5.3	4.7	5.7	6.9
	N	21	21	21	325	325	325
6	M	16.0	20.0	4.0	17.7	19.4	1.8
	SD	6.6	4.0	5.2	4.3	7.0	7.5
	N	3	3	3	273	273	273

[a] A t test between the Title VII pretest and posttest mean was statistically significant for each grade ($p \leq .001$, one-tailed).

VII. RESULTS: UNUSUALLY EFFECTIVE AND INEFFECTIVE TITLE VII AND NON-TITLE VII CLASSROOMS

A. Procedures Used for Determining Effective and Ineffective Classrooms

All criterion variables (English Reading, Reading Vocabulary, Mathematics Computation, Prueba de Lectura, and Attitude Toward School) were aggregated to the classroom level, using only those scores for students having had both a valid pretest and a valid posttest score on the same instrument. The mean pretest scores, the mean posttest scores, and the number of students who took those instruments were retained as part of a classroom level aggregate data file. Separate aggregate data files were maintained for each grade level.

To have an indicator of the difference between observed and expected achievement growth of students at a given grade level present in each classroom, the mean classroom posttest scores were regressed on the mean classroom pretest scores, and then residuals were computed for each criterion. These residuals were then standardized by dividing them by their standard deviations.

Because a differing number of students took the various instruments and because the distributions of residuals were not necessarily normal, these standardized residuals were used only as a general guideline to select unusually effective or ineffective classrooms. Aggregate scores based on an N of 4 or less were not considered as unusual, even when they indicated extreme changes from fall to spring. This constraint was necessary in view of the doubtful reliability of data from so small a group. After examining the patterns of residuals available for the criteria at all five grade levels, it was decided that standardized residuals of ±1.5 or more indicated unusual growth patterns for a sufficient number of classrooms for purposes of descriptive profiling, and would represent, in our opinion, a deviation of such magnitude as to be unlikely to be caused by chance.

The designation "unusually effective or ineffective" is made in terms of the pool of classrooms present in the Impact Study and how residualized changes in student achievement are distributed among them. The educational importance of these gains or losses, however, is not self-evident: what is also required is some idea of the actual magnitude of the changes in student growth that these scores represent. For test scores where national percentiles are available, these will be discussed. Where no normative standards exist to which one can compare, the best available description is in terms of the change in raw scores from pretest to posttest.

B. Results

Tables VII-B-1 through VII-B-7 show the achievement patterns for classrooms found to be (1) unusually effective on English Reading and Vocabulary and moderately effective on Mathematics Computation, (2) unusually ineffective on English Reading and Vocabulary and moderately ineffective on Mathematics Computation, (3) unusually effective on Mathematics Computation and moderately effective on English Reading and Vocabulary, (4) unusually ineffective on Mathematics Computation and moderately ineffective on English Reading and Vocabulary, (5) unusually effective on the Prueba de Lectura, (6) unusually ineffective on the Prueba, and (7) unusually effective in student attitudes.

In each of these tables, ++ indicates unusual growth between fall and spring on a given criterion; -- indicates an unusually small or even negative change. In both instances, the standardized residual has an absolute value of 1.5 or more, and the number of students represented is greater than four. The symbols + and - indicate standardized residual scores that are at least .5 of a standard deviation away from the mean for groups of students numbering four or less and between .5 and 1.5 for groups of students numbering five or more. The symbol 0 indicates standardized residuals with absolute values of less than .5, i.e., the midrange of the distribution. Blanks indicate that no students took the test in both fall and spring.

Adjacent to these growth indicators is some additional information about these classrooms, i.e., whether or not thay are part of a Title VII project, how many students of the grade in question were present fall and spring, what percent of those students were of Hispanic origin, and how much money per pupil was provided over and above district funds (blanks indicate no data available), at what grade level the selected students were, and where general descriptions may be found in Volume II. The reference to Volume II refers to the coded project write-up number in Volume II of this report. General community characteristics, overall Title VII project goals, and specific educational characteristics of the classroom included in the intensive sample are found in these project descriptions. Specific schools referenced are noted as A, B, C, etc., after the project number. Where a comparison school appears in the tables, the reference to Volume II applies only to the general community characteristics.

Table VII-B-1 shows the classrooms which were unusually effective in terms of English Reading and Vocabulary pre-post gain and which also had moderate gains in Mathematics Computation. Of the classrooms which had this profile of performance, four were Title VII and three were non-Title VII. The percentage of Hispanic students in the classrooms ranged from 44% to 96%. The socioeconomic status of these classroom ranged from 4.4 to 6.1. (The overall socioeconomic status mean of the total sample was about 5.) The additional monies spent per pupil in these classrooms ranged from a low of $90 in one of the non-Title VII classrooms to a high of $1,196 in one of the Title VII classrooms. In general, these classrooms went from approximately the twenty-fifth percentile to the forty-third percentile in Vocabulary, from the twenty-second to the forty-second percentile in Total Reading score, and from the twenty-ninth to the fiftieth percentile in Mathematics Computation.

Table VII-B-2 shows the classrooms which were unusually ineffective in terms of English Reading and Vocabulary, which also had moderate declines in Mathematics Computation. There were three classrooms having this profile of achievement between the fall and spring testing period. All three of these classrooms were Title VII classrooms. The percentage of Hispanic students ranged from 39% to 100%. The socioeconomic scores ranged from 4.3 to 9.3. The additional per pupil cost ranged from $814 to $1,386. In terms of overall performance, these classrooms went from the twenty-fifth percentile down to the tenth percentile in Vocabulary, from the twenty-second percentile to the eighth in Reading Total, and from the twenty-first percentile to the seventeenth for Mathematics Computation.

TABLE VII-B-1

Unusually Effective Classrooms in Terms of English Reading and Vocabulary Pre-Post Gain with Moderate Gains in Mathematics Computation

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
2	++	++	+		-		X	27	44.4	5.7	$ 90	14**
2	++	++	+		-	X		14	57.1	4.5	138	5
2	++	++	+	-	++	X		18	72.2	5.2	139	5
3	++	++	+	0	-	X		17	82.4	6.1	553	19C
3	++	++	+		+		X	22	59.1	6.0	270	19**
3	++	++	+		0		X	24	95.8	4.4	221	24**
4	++	++	+	+	-	X		19	57.9	4.4	1,196	33

**Not in a Title VII Project, but the community description in Vol. II is still appropriate.

TABLE VII-B-2

Unusually Ineffective Classrooms in Terms of English Reading and Vocabulary with Moderate Declines in Mathematics Computation

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
2	--	--	-	-	+	X		23	82.6	4.7	$ 814	14
5	--	--	-	0	-	X		18	38.9	4.3	1,386	1A
5	--	--	-	-	-	X		10	100.0	9.3	1,305	2A

Table VII-B-3 summarizes the performance of the four classrooms that were moderately high in growth in English Reading and Vocabulary and unusually high on Mathematics Computation. Three of the four were Title VII classrooms. They ranged from 35% to 85% Hispanic; their socioeconomic status was typical of the Impact Study in two instances and was slightly higher for the other two classrooms. The range for the additional non-district cost per pupil was from a low of $90 for one of the non-Title VII classrooms to a high of $870 for a Title VII classroom. These four classrooms went from an average national percentile of thirty-seven in the fall on Vocabulary to fifty in the spring, from thirty-five to forty-seven on Reading, and from forty-two to sixty-nine on Mathematics Computation.

Table VII-B-4 shows the relative performance of the four classrooms in the Impact Study that produced unusually negative changes in Mathematics Computation and moderately negative changes in English Reading and Vocabulary. Three of the four were Title VII classrooms, and they ranged from 35% to 100% Hispanic. Three of the four were below the sample mean in socioeconomic status, and the non-district per pupil costs ranged from $231 to $1,386. In addition, two of the four were multigrade classrooms with only seven students at the grade level in question. On the average, these classrooms went from the twentieth to the thirteenth national percentile on Vocabulary, from the seventeenth to the twelfth national percentile on Reading, and from the thirty-eighth to the eighteenth national percentile on Mathematics Computation. One of these classrooms also produced unusually negative changes on the Prueba de Lectura.

Table VII-B-5 shows the classrooms which demonstrated unusually effective gains on the Prueba. These classrooms went on the average from a total of twenty-one items correct to a total of thirty-eight items correct during the year. The characteristics of these classrooms are the following: all of them are Title VII classrooms; the percentage of Hispanic students in these classrooms ranged from 48% to 100%; the socioeconomic status of the classrooms ranged from 3.8 to 8.9; and the additional non-district costs associated with these classrooms ranged from $301 to $814. One of the classrooms had unusually effective scores in English Reading.

TABLE VII-B-3

Unusually Effective Classrooms in Terms of Mathematics Computation with Moderate Gains in English Vocabulary and Reading

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
2	+	+	++	0	0	X		27	44.4	6.4	$307	30A
2	+	+	++	+	-	X		14	71.4	4.7	870	36
3	+	+	++		0		X	26	34.6	4.9	90	14**
4	+	+	++	0	+	X		25	88.0	6.7	553	19A

**Not in a Title VII Project, but the community description in Vol. II is still appropriate.

TABLE VII-B-4

Unusually Ineffective Classrooms in Terms of Mathematics Computation with Moderate Declines in English Vocabulary and Reading

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
2	-	-	--	0		X		7	85.7	4.4	*	8
3	-	-	--	--	0	X		23	65.2	3.4	$ 321	15B
4	-	-	--	0	0		X	7	100.0	5.1	231	11**
6	-	-	--		0	X		17	35.3	4.4	1,386	1A

*Complete additional non-district per pupil cost not available.

**Not a Title VII Classroom, but the community description in Volume II is still appropriate.

TABLE VII-B-5

Unusually Effective Classrooms in Terms of Spanish Reading Vocabulary and Reading Comprehension of the Prueba de Lectura

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classrooms		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
2	0	+	+	++	0	X		17	94.1	4.2	$301	25A
4	+	0	0	++	-	X		29	48.3	8.9	642	9
5	+	-	0	++		X		7	85.7	4.9	637	8B
6	0	0	+	++	+	X		20	70.0	4.2	814	14
2	0	0	-	++	-	X		23	100.0	3.8	301	25B
3	-	-	0	++	--	X		18	83.3	4.6	798	16
5	+	++	+	++	0	X		16	75.0	4.7	814	14

Table VII-B-6 shows the unusually negative changes that occurred in Prueba scores. The classrooms that showed unusually negative changes in Prueba scores typically went from a raw score of twenty-six to twenty-four correct. All four classrooms which showed unusually large negative changes were at the fourth-grade level. Three were Title VII classrooms, and one was a comparison classroom. The percentage of Hispanic students in these classes ranged from 20% to 77%. The socioeconomic status for the classroom ranged from 3.7 to 10.5. The socioeconomic average across all classrooms sampled was 5.1, and the average for fourth grade was 4.8. Additional non-district costs for these classrooms ranged from an unknown amount for the comparison classroom to from $321 to $530 for the Title VII classrooms.

Table VII-B-7 shows the unusually positive changes that occurred in the students' attitudes toward school. Classrooms that were unusually effective in producing upward shifts in this scale tended to go from 6.4 in the fall to 7.1 in the spring. This implies that the students in these classrooms tended to be favorable in their responses in the fall and even more favorable in the spring, since scores of 5 and 8 represent the midpoint and maximum for this scale. Of the fourteen classrooms which showed unusually positive changes, eleven were Title VII and three were non-Title VII. The percentage of Hispanic students in these classes ranged from 0% to 100%. The socioeconomic status for these classes ranged from 2.6 to 7.1, and the additional non-district costs associated with these classrooms ranged from $77 to $830.

Conclusions

It is clear from an examination of these tables that some of the Title VII and non-Title VII classrooms in the Impact Study were far more effective than others in the sample in bringing about gains in student performance during the school year. In regard to gains in English Reading, English Vocabulary, and Mathematics, several Title VII and non-Title VII classrooms were found to be producing unusually effective results when compared to the rest of the sample. Thus, while educational procedures found in some Title VII classrooms resulted in such unusual gains, these gains were also found in some non-Title VII classrooms.

TABLE VII-B-6

Unusually Ineffective Classrooms in Terms of Spanish Reading Vocabulary and Reading Comprehension on the Prueba de Lectura

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom		Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per Pupil Cost	Volume II Reference
						Title VII	Non-Title VII					
4	+	+	+	--	-	X		28	46.4	5.6	$321	27B
4	0	+	+	--	-		X	25	20.0	5.7	*	14**
4	0	0	0	--	+	X		17	76.5	10.5	530	6
4	-	0	0	--	0	X		19	73.7	3.7	321	15A

*Complete additional non-district per pupil cost not available.

**Not a Title VII Classroom, but the community description in Volume II is still appropriate.

TABLE VII-B-7

Unusually Effective Classrooms in Terms of Students' Attitude Toward School

Grade	Vocabulary	Reading Total	Mathematics Computation	Prueba de Lectura	Attitude Toward School	Type of Classroom: Title VII	Type of Classroom: Non-Title VII	Number of Students	Percent Hispanic Students	Mean Socioeconomic Status	Additional Non-District Per-Pupil Cost	Volume II Reference
3	0	+	+	+	++	X		20	95.0	4.1	$321	4B
4	0	+	0	0	++	X		16	75.0	3.8	*	33
3	+	0	0		++		X	21	85.7	6.5	77	10**
2	+	+	-		++	X		20	80.0	7.1	495	26
3	+	-	-	0	++	X		8	87.5	5.2	743	8A
3	0	0	+	0	++	X		12	0.0	2.6	820	30B
4	0	0	0	0	++	X		30	100.0	3.5	*	12
5	-	0	0	+	++	X		8	100.0	2.7	830	3C
5	0	-	0		++		X	6	16.7	6.1	231	11**
5	-	0	0	-	++	X		19	94.7	7.0	807	7
5	0	-	-	0	++	X		12	58.3	3.7	*	33
3	0	-	-		++		X	25	100.0	4.7	221	24**
2	0	-	0	-	++	X		12	16.7	3.9	356	22
3	-	-	-	0	++	X		27	100.0	3.5	197	12

*Complete additional non-district per pupil cost not available.

**Not a Title VII Classroom, but the community description in Volume II is still appropriate.

Several Title VII classrooms had students how made unusual gains when compared to the rest of the sample in Spanish Reading, Vocabulary, and Reading Comprehension. That there were no non-Title VII classrooms which were unusually effective in Spanish instruction outcomes is not surprising since there was no special Spanish Langauge Arts instruction curriculum in non-Title VII schools at the grade levels included in the Study.

Classrooms unusually effective in bringing about positive changes in student attitudes toward school were found among both Title VII and non-Title VII classrooms. Such changes in attitude, however, were not associated with unusually effective student test performance in English Reading, Spanish Reading, or Mathematics. Thus, it appears that in Title VII and non-Title VII classrooms improving the student's attitude toward school does not necessarily result in unusually large gains in student performance in academic areas.

It is important to recognize that the information presented in the tables in this chapter and in Volume II have been used to provide information about a limited number of very specific instances of effective and ineffective classrooms. The ultimate importance of any given particular dimension of educational practice or procedure found in these classrooms cannot be determined until the impact of the particular practices is assessed across the entire sample. To that end, the educational characteristics from these unusually effective and ineffective classrooms should provide viable hypotheses for further analyses to be performed for and reported in subsequent reports.

VIII. SUMMARY OF FINDINGS

The findings of this interim report can be grouped into the following areas and summarized:

- Nature of the student population served by Title VII projects
- Characteristics of Title VII project teachers and aides
- Title VII project data and costs
- Title VII program impact on student achievement and attitude toward school based on analysis of pretest and posttest data collected typically during November and May of the 1975-76 school year

A. Nature of the Student Population Served by Title VII Projects

- Approximately three-quarters of the students enrolled in the Title VII Spanish/English classrooms were of Hispanic origin.
- Less than a third of the students in Title VII classrooms were there because of their limited English-speaking ability.
- For students of Hispanic background, 35% in the second-grade Title VII classrooms were there because of their limited English-speaking ability. For grades 3, 4, 5, and 6, the corresponding percentages were respectively, 30%, 30%, 19%, and 27%.
- Approximately 60% of the Title VII second-graders were judged by their teachers to be English monolingual or English-dominant bilingual. The same is true of the third-graders. Approximately three-quarters of the fourth-, fifth-, and sixth-graders in the bilingual classrooms were judged to be either English monolingual or English-dominant bilingual students.

B. Characteristics of Title VII Teachers and Aides

- The general level of training of Title VII teachers is indicated by the finding that approximately 80% of the teachers had a regular or a bilingual teaching credential, and some 30% reported having a master's degree.

- Almost all the teachers and most of the aides had been involved with inservice or district workshops in bilingual education and had taken course work in bilingual education.
- In terms of experience with bilingual education, two-thirds of the teachers and two-thirds of the aides had had two or more years of bilingual teaching experience.
- Approximately two-thirds of the teachers and almost all the aides indicated that they spoke both Spanish and English in their homes.

C. General Title VII Project Data and Costs During the 1975-76 School Year

- The number of students served by the Title VII projects ranged from 200 to 5,000, with somewhat over half of the projects serving between 200 and 500 students each.
- The level of stability of project management is reflected in the finding that only 10% of the projects had had more than two project directors during the past four to five years. About half had had two directors, and a third had had the same director since the project's inception.
- Analyses of the policy of each project with regard to the placement of a Spanish-dominant student once he/she is able to function in school in English showed that by far the majority of the projects were implementing a Spanish maintenance bilingual project. Eighty-six percent of the project directors indicated that once a Spanish-dominant student learns English well enough to function in school he/she remains in the bilingual project. Only 5% of the project directors indicated that a Spanish-dominant student is transferred from the project to an English-only classroom with no Spanish language maintenance once he/she learns English well enough to function in school.

- Variations among geographical regions were evident when Title VII per pupil costs were examined. Per pupil costs from Title VII funds ranged from $150 to $739 per Title VII student, with an average of $310. When other non-district funds were added, the total non-district-supported per pupil costs for Title VII students ranged from $321 to $984, with an average of $531. When the total non-district costs were added to the basic district per pupil cost, the grand total per pupil cost for Title VII students ranged from $1,127 to $2,120, with an average of $1,398. (The grand total per pupil cost for non-Title VII students ranged from $992 to $1,534, with an average of $1,022.)

D. Title VII Program Impact on Student Achievement and Attitude Toward School

- Average fall 1975 to spring 1976 achievement gains in English Language Arts for Title VII Hispanic students were not superior to those of non-Title VII Hispanic students.
- Title VII Hispanic students who were judged to be Spanish monolingual by their teachers (for test and questionnaire administration purposes) showed no gains in English Language Arts achievement between pretest and posttest with respect to national norms.
- Title VII white non-Hispanic student pretest and posttest means showed that the relative standing of these students on English Language Arts declined slightly between pretest and posttest in four of the five grades inlcuded in the study (grades 3, 4, 5, and 6).
- Title VII black student pretest and posttest means showed that the relative standing of these students on English Language Arts national norms stayed the same or increased slightly in three of the six grades included in the study (grades 2, 3, and 4).

- Title VII Hispanic students in all grades (2 through 6) performed better than non-Title VII Hispanic students with respect to the acquisition of computational skills in Mathematics.
- Relative to national norms, the achievement gains in computational Mathematics of Title VII Hispanic students who were judged to be Spanish monolingual by their teachers were greater than expected for all grades in the Study.
- White non-Hispanic and black students in Title VII classrooms demonstrated positive gains relative to national norms in computational skills in Mathematics.
- Posttest Spanish Language Arts achievement did exceed that measured by the pretest for Title VII Hispanic students but lack of a suitable comparison group of students did not permit these gains to be uniquely associated with participation in a Title VII project.
- Participation in Title VII-supported classrooms did not tend to have any differential impact on student attitudes toward school-related activities.
- In regard to gains in English Reading, English Vocabulary, and Mathematics, several Title VII and non-Title VII classrooms were found to be producing unusually effective results when compared to the rest of the sample. Thus, while educational procedures found in some Title VII classrooms resulted in such unusual gains, these gains were also found in some non-Title VII classrooms.
- Several Title VII classrooms had students who, compared to the rest of the sample, made unusual gains in Spanish Reading, Vocabulary, and Reading Comprehension.
- Classrooms unusually effective in bringing about positive changes in student attitudes toward school were found among both Title VII and non-Title VII classrooms. Such changes in attitude, however, were not associated with unusually

effective student test performance in English Reading, Spanish Reading, or Mathematics.

- No clear trend related to the relative proportion of Hispanic and non-Hispanic students in the classrooms with unusually effective or unusually ineffective English Reading or Mathematics performance was evident. The percent of Hispanic students in classrooms unusually effective in English Reading and English Vocabulary ranged from 44% to 96%. The percent of Hispanic students in the classrooms unusually ineffective in these academic areas ranged from 30% to 100%. Essentially the same findings were evident with regard to Mathematics performance and Spanish Reading performance.

E. Conclusions

The interim results from the first year's data suggest that in terms of one of the major goals of the ESEA Title VII legislation--that of having students of limited English-speaking ability achieve competency in the English language--the projects which have been operating four to five years have not been generally effective.

However, in terms of permitting students to progress in Mathematics, the Title VII projects were able to bring about consistently encouraging results at all grade levels.

While no appropriate norms or comparison groups were available to assess the relative impact of Title VII on the acquisition of Spanish Language Arts, there was an increase in the scores on the Spanish Reading Test between the pretest and the posttest for Title VII students.

No clear trend was found which would indicate that participating in Title VII brought about an increase in positive attitude toward school.

All in all, there seems little doubt that most of the students in the Title VII projects included in this evaluation generally were not performing in the English language at expected educational levels. This overall level of performance was not a result of large numbers of Spanish monolingual students being in the program. Rather, the majority of the students were classified by their teachers as being bilingual or English monolingual. While their present level of English proficiency suggests that additional instruction in English Language Arts would be necessary to bring these students up to grade level in English proficiency, it is not evident from the current data of the Impact Study that Title VII bilingual education as presently implemented should be considered as the most appropriate approach for these students.

APPENDIXES

APPENDIX II-A-1

A SUMMARY OF PERTINENT LITERATURE ON BILINGUAL EDUCATION

Introduction

This document represents an extensive survey of the literature on bilingual education, with special emphasis on publications from the past five years. Its purpose is to summarize and synthesize the many varied and sometimes contradictory hypotheses upon which current bilingual programs have been based. These hypotheses have been derived either directly or inferentially by the reviewers from a variety of sources -- program descriptions and evaluations; federal and state legislation; and the writings of linguistic and educational theorists, researchers and practitioners. Some of these hypotheses have been tested; others are informed "hunches" in search of a testing ground. However, all of the ideas discussed here have this in common: they are thought to provide part of the answer to what makes bilingual education most effective in terms of the child's achievement in school and his attitudes toward himself and the world in which he must function.

The review staff has included persons with diverse educational, experiential and ethnic backgrounds. A conscious effort has been made to assess the literature objectively. However, some weight has been given to those ideas expressed most frequently, as well as those hypotheses put forth by recognized authorities in the areas of bilingual education and linguistics.

It should be emphasized that the search has been for ideas, and this document therefore is unlike the usual literature review in which all references are cited. The approach here has been to discuss major ideas that have been distilled from all the sources, but to list only one or two key references in the text.

The focus of this review has been on identifying hypotheses that result in variations among programs and which are amenable to experimental or quasi-experimental evaluation. There are obvious differences of opinion about the ultimate goal of bilingual education, and these differences will be touched on insofar as they have an impact on program characteristics.

Bilingual education, as discussed in the literature, encompasses a broad spectrum of approaches to teaching a second language. For the purposes of this study, the definition used in the Title VII legislation has been adopted -- that is, a program of bilingual education means a program of instruction that is designed for children of limited English-speaking ability in elementary or secondary schools. It provides instruction in English and the native language of the children, and such instruction is given with appreciation for the cultural heritage of such children. (Public Law 93-380). The Manual for Project Applicants and Grantees (U.S. Department of Health, Education and Welfare, 1971) lists the following objectives of bilingual education programs:

- To meet the special educational needs of children with limited English speaking ability, who come from environments where the dominant language is one other than English, and who may come from low income families.
- To help children in the program develop greater competence in English, become more proficient in their dominant language, and profit from increased educational opportunity.
- To prevent retardation in school performance until sufficient command of English is attained.

It is important to note that there is more variation in the programs funded under Title VII than is reflected in the guidelines. Diverse philosophies, definitions, approaches, and strategies are currently being implemented in bilingual programs, and are thus included in the following review.

The Problem

The Bilingual Education Act is based on the premise that the schools have been unresponsive to the needs of children with linguistic and cultural backgrounds different from that found in the school. Evidence supporting this statement, as it relates to the Mexican American child, is found in a series of reports from the U.S. Commission on Civil Rights (1971 abc, 1972 ab, 1973, 1974 ab). These reports, researched over the period from 1968 to 1974, statistically document the following educational position of Mexican American students in the Southwest:

- Compared with children of other races, Mexican American students reach lower achievement levels;
- Mexican American children are overrepresented in low ability groups;
- Mexican American students are too often retained at grade level, and consequently are more often overage for their class;
- Mexican American students participate in extracurricular activities to a lesser degree than their Anglo peers;
- Mexican American students have higher school dropout rates.

These are the major symptoms of the problem. Some indication of its extent can be found in the report on the Elementary and Secondary Education Amendments of 1974 submitted by the Committee on Education and Labor of the House of Representatives:

- The U.S. Office of Education estimates that there are at least five million school children who come to school with competency in a language other than English.
- Less than 3 percent of the Mexican American student population is being reached by any bilingual education program. In three states -- Arizona, Colorado and New Mexico -- bilingual programs are reaching less than 1 percent of the target population. California, with more bilingual programs than any other state, is reaching less than 2 percent.
- In the Southwest, it is estimated that 40 percent of Mexican American students do not finish high school. In Boston, it is estimated that 90 percent of the Puerto Rican students drop out before they reach high school.

These figures are stark indeed; yet they do not begin to convey the human dimensions of the problem: the conflicts between the value system of the school and home that are experienced by the student; the feelings of alienation and anomie created by an educational environment that is nonresponsive to the child's background; the damage to the child's self-concept and motivation by the feeling that he is somehow "different."

The Federal legislation indicates a commitment to the solution of these problems through the funding of bilingual education programs. Bilingual education programs can operate from many different perspectives. Ferguson, Houghton and Wells (1972) have detailed some of the goals implicit in diverse bilingual programs around the world:

1. To assimilate individuals or groups into the mainstream of society.
2. To unify a multilingual society.
3. To enable people to communicate with the outside world.
4. To gain an economic advantage for individuals or groups.
5. To preserve ethnic or religious ties.
6. To promote understanding between privileged and deprived groups.
7. To reconcile different political or socially separate communities.
8. To help meet the individual's spiritual or emotional needs.
9. To introduce individuals to foreign cultures via language.
10. To urge the learning of language for its own sake.
11. To spread and maintain use of a colonial language.
12. To embellish or strengthen the education of elites.
13. To give two languages already present in society in unequal distribution a more equal prominence.

No one program can provide all the answers to the attainment of these goals, and in this review we have attempted to identify those program elements that appear to be most worthy of study from the standpoint of their possible effectiveness.

These elements and their implications for the present study are discussed under the following major categories: program planning and administration, language component of bilingual education, the cultural component of bilingual-bicultural education, and classroom variables.

Program Planning and Administration

In a survey of 40 experienced bilingual teachers, several major factors working against the success of programs were identified. These factors included lack of institutional support and unstable funding; rigid educational views that curtail flexibility and innovation; political rivalry for sparse funds; a lack of bilingual/bicultural program models that could be replicated; inadequate concepts and methodologies; lack of critical self-evaluation by programs; and conflicting educational philosophies (Trueba, 1973). Unfortunately, many of these problems lie beyond the impact of the program administrator. Of those things which are affected by his planning and decision-making, however, the following four areas of concern appear most often in the literature: staffing, the enlistment of parental and community support, student needs assessment, and (to a lesser degree) evaluation.

Staffing

It seems to be generally accepted that there is a lack of personnel who are adequately proficient in both languages for staffing bilingual programs (Development Associates, 1974; Trueba, 1973, U.S. Commission on Civil Rights, 1972); and assembling a teaching staff has been identified as the most pressing problem facing a program administrator (John & Horner, 1971).

Qualifications. While there is agreement that the staff should include teachers of both languages, there are opposing hypotheses about the relative importance of the individual teacher's qualifications. Some of these hypotheses emphasize the teacher's ability to speak the child's language:

The teacher should be a literate native speaker of the student's first language (Gaarder, 1973). Good knowledge of the language by the teacher implies adequate knowledge of the literature, songs, folklore, geography, dialects, and history of people who speak the language in question, and only "native" teachers can meet these requirements (National Puerto Rican Development and Training Institute, 1973). All program teachers should be native and highly trained speakers of the language in which they teach; if necessary, this requirement should be met through teacher exchanges and the use of foreign teachers. Deficits in the education of such teachers can be compensated for by the use of teacher aides and teacher guides (Andersson & Boyer,1970). Gaarder (1967) states that it will maximize the dual perspective that pupils can get from bilingual schooling if their teachers are native speakers who have been educated in the country where the language is native. Turner (1973) on the other hand, states that program teachers should be members of the community.

Other hypotheses put major stress on the teacher's training, as a result of both course work in pedagogy (Goodman & Stern, 1971; TESOL, 1971;

Perales, 1973; Saville & Troike, 1970) and teaching experience (Goodman & Stern, 1971; National Consortia for Bilingual Education, 1971). John & Horner (1971) state that teachers must be trained in teaching their specialties in both languages, and must be certified in American schools, although they have also said that the ability to communicate with students may outweigh educational training.

A related issue is the use of monolingual vs. bilingual teachers. Some writers feel that it is not necessarily a prime qualification that teachers in bilingual schools be bilingual; that it is easier to find one good Spanish-dominant teacher and one good English-dominant teacher than to locate two good bilingual teachers; and that learners should be exposed to two adult figures of authority -- one dominant in English and one dominant in Spanish or other second language (National Puerto Rican Development and Training Institute, 1973). An opposing view is that both teachers and aides should be fully literate in both languages (Gaarder, 1970), and that bilingual programs should include language instruction for teachers and aides if they are not fully bilingual (New York Bilingual Resource Center, 1973). It also has been said that mere bilingualism does not prepare a teacher for work as a bilingual teacher (Gaarder, 1970) and that the potential of native and non-native speakers to serve as bilingual teachers is equally good if the teachers have been properly trained (Andersson & Boyer, 1970).

Training. Many documents, including Title VII guidelines, recommended inservice training to upgrade teacher qualifications. While several advocate courses in the use and development of materials (Goodman & Stern, 1971; Southwest Educational Development Laboratory, 1969; Education Service Center Region 1, 1971; Natalicio & Williams, 1971; Ulibarri, 1969; and National Consortia for Bilingual Education, 1971, among others), the greatest number of recommendations is for teacher training in cultural awareness and sensitivity. While the implication is that these courses would be for the Anglo teacher, at least one document calls for such training for all staff, since it cannot be assumed that a person who "belongs" to a culture is aware of and understands it (National Puerto Rican Development and Training Institute, 1973).

Content of such courses should include the minority history and culture, the background and learning needs of Mexican American pupils, and practice for the teacher in interacting with Mexican American adults and students (U.S. Commission on Civil rights, 1974). A key objective of sensitivity training should be to make bilingual educators more aware of both their own cultural values and those of their students (Ramirez, 1969).

Many programs provide teacher training in methods of language instruction, as well as opportunities to observe others teach and to be observed. However, only a few program documents recommend training in administrative aspects of the program such as discussions of problems and goals (Santa Clara County Office of Education, 1972 ; Ulibarri, 1970; Edgewood Independent School District, 1971); evaluation (Santa Clara County; National Consortia for Bilingual Education, 1971; Simmons, 1971) and community involvement techniques (National Consortia for Bilingual Education; Rowland School District, 1971). In only one document was there reference to training in techniques for working with aides(the manual for project applicants and grantees published by the Bureau of Elementary and Secondary Education), although the need for teamwork and close coordination between teachers, administrators and aides was frequently stressed (Lambert & Tucker, 1972; Andersson, *et al.*, 1970; Ulibarri *et al.*, 1969; among others).

Role in project planning. Another aspect of the teacher's role concerns involvement in project-related activities. It is felt that they should participate in program planning (Andersson & Boyer, 1970; John & Horner, 1971); and that they should have the power, responsibility, and skills to plan and develop their own curriculum whenever necessary (National Puerto Rican Development and Training Institute). Martinez* has pointed out the importance of determining the extent to which staff members assume ownership for the project and participate in decision-making as well as the extent to which the school environment is supportive of the effort. Harrison (1973) has emphasized the need for project leadership that is readily available to the staff, as well as close support by school principals.

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*O. Martinez, personal communication, August, 1974.

Aides. There appears to be heavy reliance within programs on paid or volunteer aides. One document emphasizes the use of bilingual aides as an essential curriculum element (California State Department of Education, 1969). However, it is not clear from the literature what the primary duties of the aide should be. There are references to their importance as ethnic models for Spanish-speaking students (Fordham University, 1971; Carlisle, 1973; Sanchez, 1972); and one writer further recommends that they be used to individualize instruction, help in language instruction, and contribute cultural insights to the class (LaFontaine, 1970). Mention is made also of their use as community liaison workers (Goodman & Stern, 1971; Ramirez et al, 1971; Santa Clara County Office of Education, 1972; Perez, 1971; Simmons, 1971; Edgewood Independent School District, 1971). However, the assumption can perhaps be made that classroom aides are often used for clerical tasks and are not accorded the same status as the teacher, which would raise the question of their effectiveness as role models.

Enlistment of community and parent support

Throughout the literature there are references to community involvement and parental participation as important components of bilingual programs. It is felt that such participation: ensures that the true needs of the community and its culture will be incorporated into the bilingual curriculum (John, 1974); improves student progress and positive attitudes toward school (New York Bilingual Resource Center, 1973); and, by reinforcing the home language, makes parents more supportive of the school (Goodman & Stern, 1971; Skoczylas, 1972) and more involved in their children's education (Pennsylvania State Department of Education, 1972).

While the legislation specifies that community members should serve on advisory committees in all federally sponsored projects, the duties of such committees are not clearly defined and may range from serving as aides and tutors to participating in the selection of program staff (Bortin, 1971; Baker, 1971). However, in a process evaluation of 34 projects, it was found that parental participation was infrequent or non-existent in about one-third of the projects, and that community people were used less often than parents. Many of the projects had failed to assure that Advisory Groups function in any capacity (Development Associates, Inc., 1974).

Several authors advocate extensive public relations campaigns as a way to gain community support for a program by informing the public about its goals (Logan, 1970; Ulibarri, 1969). Such campaigns might include television presentations (Saville & Troike, 1970), newsletters (Santa Clara County Office of Education, 1972; Saville & Troike, 1970), and meetings with service organizations and parents (J.C. Fikes & Associates, 1970). It is also suggested that community service programs including adult education, breakfasts, lunches, dental care, summer recreation programs, and counseling services will increase the parents' desire to keep their children in school (Southwest Educational Development Laboratory, 1969; Sanchez, 1972; Comptroller General of the U.S., 1971).

Theories about effective parent involvement include the idea that it should be specific to classroom instruction by means of periodic meetings between parents and a bilingual teacher who briefs them on their child's activities (New York Bilingual Resource Center, 1973). It is also felt that successful programs need active home-school contacts through avenues such as a liaison person (Payne & Medina, 1972) and notices sent home in the home language, not just English (U.S. Commission on Civil Rights, 1972). It is also recommended that parents be invited to observe and to teach classes (Lesley, 1971; Rowland School District, 1971; Edgewood Independent School District, 1971).

Project Administrator's Role

There is some concern with the special role of the project administrator in recruiting and maintaining community support. Andersson & Boyer (1970) stress the coordinator's role in fostering a positive public attitude by visiting key people in the community, giving public talks, appearing on TV, and keeping in close touch with the advisory council, as well as listening for public reaction to the program. The implication is that the administrator should be prepared to make changes in the program based on these reactions.

One important aspect of the administrator's role that is infrequently mentioned in the literature is the degree to which the project director has the authority to exercise control over the project within the total school environment. In the process evaluation of 34 bilingual projects, it was found that approximately one-half of the project directors had difficulty in exercising authority commensurate with their responsibilities (Development Associates, Inc., 1974).

A related issue, treated only tangentially in the literature, is that of the status of the project in the community outside of the school, and the degree of support received from parents, community institutions, and district-level personnel and board members. At the state level, a clear mandate for bilingual education programs through legislation would appear to be important. At the present time, there are wide variations in such legislation. For example, in Oklahoma there are no legislative provisions for bilingual education; the state of Maine has only permissive legislation; and both California and Texas have strong legislative requirements for bilingual/bicultural programs.

Student Needs Assessment

There are strong indications in the literature that the needs of bilingual students should be assessed before instituting any type of bilingual Program. Valencia (1969) calls for measures of language proficiency and cultural differences, as a result of his observations of a number of bilingual programs across the country. Sancho (1972) feels that the student's fluency should have a direct effect on curriculum content and presentation, since bilingual students come to school with varying proficiency in both Spanish and English. In a series of experiments Ramirez and Castaneda (1974) have presented evidence that students vary in the degree to which they are field sensitive vs. field independent learners; they maintain that curriculum materials and teaching strategies should be tailored to the child's predominant learning style. Hernandez (1973) points out the need for educators to determine the health status of their students. She found that many children from low socioeconomic status homes have less well-developed auditory and visual discrimination systems, which she attributed to poor health care and improper nutrition. This implies that environmental factors should be included in the needs assessment. Differences in orientation to the school environment have also been identified among children from urban vs. rural backgrounds. (Saville - Troike, 1973; Ramirez & Castaneda, 1974). Ulibarri (1969) and Ramirez (1970) discuss cultural differences that should be considered in designing a program.

Evaluation

When evaluating an educational program, it is important to consider whether that evaluation will be formative or summative in nature. Summative evaluation is concerned with final outcomes -- the present study represents such an effort. Formative evaluation, on the other hand, focuses on the processes of an ongoing program, and seeks to identify strengths and weaknesses in these processes for the purpose of improving the program and maximizing its positive effects. There is a large body of literature concerned with both the formative and summative aspects of evaluation (Caro, 1971; Suchman, 1967; American Institutes for Research, 1970, among others). It is thought that provision for formative evaluation is an important part of the design and administration of a program. This calls for systematic collection of information about what is happening, mechanisms for feeding back this information to those involved in the program, and enough flexibility in the system so that positive changes can be made. The success of a program may well depend on the extent to which formative evaluation has been built into it.

Language Component of Bilingual Education

Roles of native and second language in a bilingual education program

In the review of the literature concerning the role of native or second language instruction, it is useful first to consider the various typologies of bilingual education and the use of languages therein. Mackey (1970), Valencia (1969) and Fishman and Lovas (1970) have proposed guidelines for the analysis of variables in bilingual education. Mackey's model would clasify these variables along these dimensions:

A. the behavior of the bilingual at home.
   1) the unilingual home
      a) language used is the school language
      b) language used is not the school language
   2) Bilingual home
      a) languages include one school language
      b) languages exclude school language
      c) languages include both school languages

B. Curriculum in the school
   1) Medium of instruction
      a) single language
      b) dual language
   2) Development pattern
      a) maintenance of two or more languages
      b) transfer from one language to another
   3) Distribution of languages
      a) different
      b) equal
   4) Direction
      a) towards assimilation and acculturation
      b) towards irredentism
      c) maintenance of languages at an equal level
   5) Change from one language to another
      a) complete
      b) gradual

Based on the language used as the medium of instruction, Mackey classifies schools as single medium schools and dual-medium schools. In development, that is to say in terms of time, schools are transfer schools or maintenance schools. According to direction, schools may lead to acculturation or irredentism. The subject matter may be distributed between languages equally or differently. Finally, the curriculum can move the student from one language to the other in a gradual way or the transfer can be abrupt and complete.

One aspect that Mackey and other specialists stress as significant is the extent to which the curriculum design takes into account similarities and differences in the two languages.

Valencia (1969) presents a typology of 19 models. Valencia's models are summarized below:

Model 1: All the subject matter is taught in English. ESL is offered as a special program.

Model 2: All subject matter is taught in English. Another language is offered as a second language.

Model 3: A combination of models 1 and 2. It discontinues the native language at a predetermined point.

Model 4: Also a combination of 1 and 2. The native language is continued through the entire length of the curriculum.

Model 5: Instruction is started in a native language up to a certain grade level and continues thereafter with the child's second language.

Model 6: Similar to 5, but instruction in the native language is phased out gradually rather than at a certain point.

Model 7: Essentially similar to 5. A special program in ESL is included until the subject matter in the entire curriculum is presented in English.

Models 8 and 9 are an extension of Model 7. The native language is taught as a special enrichment program.

Models 10 and 11 illustrate different types of phasing out processes of native language usage in the subject matter, coupled with a program in ESL and an enrichment course in English.

Models 12 and 13 represent curriculum organization where some areas are taught in the native language and some in the second language. The second language gradually phases out the mother tongue.

Models 14 and 15 use two languages alternatively, year to year to cover the subject matter.

Models 16, 17, and 18 present two languages in use to conduct instruction in the curriculum.

Model 19: Uses both languages as medium of instruction, with emphasis on non-standard varieties of the two languages.

Valencia emphasizes that demographic data and a careful examination of the educational needs of the children are essential in ascertaining the type of bilingual program for a geographical area.

Fishman and Lovas (1970) present four broad categories of bilingual education patterns: transitional, monoliterate, partial and full. They base this typology on the various kinds of community and school objectives.

Type I Transitional bilingualism: In programs of this nature the mother tongue is used only until the children adjust to school and are able to follow the academic subjects in the second language.

Type II Monoliterate bilingualism: Programs of this nature have as a goal the development of oral language in the mother tongue and the second language, but reading is taught only in the second language. Programs with this kind of orientation represent an intermediate stage between language shift and language maintenance.

Type III Partial bilingualism: Programs of this nature have as an objective fluency and literacy in both languages, but literacy in the mother tongue is limited to some content areas, preferably those that have direct relation to the culture of the linguistic group.

Type IV Full bilingualism: In programs where full bilingualism is the main goal, students are taught all skills in both languages in all domains.

The authors emphasize the need to gather societal information in the planning stages of bilingual education programs. They consider the following as essential:

1) A survey that would establish the languages and varieties employed by both parents and children by societal domain or function.
2) Some rough estimate of their relative performance level in each language, by societal domain.
3) Some indication of community (and school staff) attitudes toward the existing languages and varieties and toward their present allocation to domains.
4) Some indication of community (and school staff) attitudes toward changing the existing language situation.

These typologies are useful in that they give the researcher a general outline of what language teaching strategies to look for in a bilingual program. It can be summarized that the main variables in these typologies are (1) the choice of language of instruction, (2) the extent of instruction in the two languages, (3) the role of the languages in the community, and (4) the attitudes of staff and children to the language.

Choice of language of instruction

The main thrust of the research in bilingualism in the past ten years is that the native tongue of the child should be the first language of instruction.

> It is axiomatic that the best medium for teaching a child is his mother tongue. Psychologically, it is the system of meaningful signs that in his mind work automatically for expression and understanding. Sociologically it is a means of identification among the members of the community to which he belongs. Educationally, he learns more quickly through it than through an unfamiliar medium. (Unesco 1954,14)
>
> Every child is born into a cultural environment; the language he learns is both a part of, and an expression of, that environment. Thus, the acquiring of this language (his mother tongue) is a part of the process by which a child absorbs the cultural environment. It can then be said that this language plays an important part in moulding the child's early concepts. He will therefore find it difficult to grasp any new concept which is so alien to his cultural environment that it cannot readily find expression in his mother tongue. (Unesco 1954)

Gaarder (1964), Andersson (1964), Christian (1973), Linton (1972) and Garcia (1970) all concur that every child should begin his formal education in his mother tongue; furthermore, that learning in the mother tongue will contribute positively to the development of the personality and intellect of the student. In turn, this will increase the student's ability to learn a second language. This approach favors a situation in which the teacher's first educational objectives should be to increase the child's mastery of spoken Spanish and to begin, when he is ready, to teach the elements of reading and writing in Spanish.

Gaarder (1967) stresses these advantages of using the mother tongue as a medium of instruction: (1) to strengthen the bonds between school and community; (2) to maximize the child's ability to participate in school activities; (3) to avoid scholastic retardation and to develop strong literacy.

In the areas of second language instruction sequence in the program, methodologies and extent of preserving the mother tongue, the field has yet to arrive at agreement. Saville-Troike (1973) gives insight to the problems of second language acquisition. She notes that children entering kindergarten at age five have spent their waking hours for four years mastering their native language, but the school has only a few hours a day to bring these children to the same level of competence in the second language. Consequently the presentation of sounds, structure and vocabulary must be made in a way which efficiently shortcuts the time required for learning English. It is recognized that children must learn English, but there are varying ideas about when, how and whether they learn other school subjects in English or Spanish.

Reading in Native Language

A widely held theory is that children should learn to read in their native language before learning to read in a second language (New York Bilingual Resource Center, 1973). One study found that this promotes greater awareness of phoneme-grapheme relationships as evidenced by the fact that children instructed in this way made more logical spelling errors (Alvarez, 1973). While learning to read in their first language, children should receive oral instruction in the second language (Education Service Center Region I, 1972; New York Bilingual Resource Center, 1973). Once they have learned to read in their native language, and to speak and comprehend the second language, children may be taught to read the second language (Education Service Center Region I, 1972).

The issues on reading for bilinguals have yet to be resolved. Hall (1970) emphasizes that until the child is successful in reading in his native language he should not be introduced to reading in another language. It has been said that learning to speak, write, and read in one language should facilitate learning to speak, write and read in another language (Lambert, 1972). Some evidence that such transfer of decoding skills takes place was found in the St. Lambert experiment. However, when the same students were exposed to an unfamiliar list of Russian phonemes, their decoding ability was similar to that of monolingual students in the control school. Hillerich (1970) has emphasized that to maximize the carryover effect from Spanish reading to English reading it is important to stress word meaning and not just decoding skills, because Spanish decoding skills are considerably easier than English decoding skills. There is also concern in the field for interference, or confusing the rules in two languages. In the St. Lambert experiment, English speaking children who were doing most of their school work in French experienced problems with English spelling in Grade I and with English punctuation and capitalization in Grade III. To avoid confusing a student's two languages, instruction in each language is often given at different times of the day. Other programs advocate waiting to introduce reading in a student's second language until the second or third grade (Baker, 1971; Saville & Troike, 1970).

Methods of teaching the second language

Among those who hold that instruction in both languages (as opposed to the immersion method) is the best approach, there are different theories as to which is the most logical or effective method. Some projects use the "concurrent" method, others the audio-lingual method and others the natural method of language instruction.

Concurrent method. In the concurrent method all instruction is given in English, immediately followed by the same instruction in Spanish. Children who start school with this approach follow it throughout successive grade levels (Southwest Intergroup Relations Council, 1970). Against the concurrent method some have argued that it decreases the amount of instructional content because of the time required for simultaneous translation.

Audio-lingual method. Advocates of the audio-lingual and natural methods of language instruction believe that language learning should take place in a meaningful context (Levinson, 1971; Ramirez, 1971; Bracy, 1970; Rivers, 1971; Adkins, 1971) and that bilingual programs have a better chance of success if children hear and need to use both languages in daily life (Saville & Troike, 1970). Advocates of the audio-lingual method see language learning as a mechanical process. They stress the use of pattern practice and vocabulary drills and believe that students' mistakes should be corrected immediately so that their bad habits are not reinforced. In the audio-lingual method, translation is unacceptable, and correct pronunciation is stressed (Andersson, 1970; Levinsky, 1970; Carter, 1970).

Natural method. Advocates of the "natural" method believe that second language learning should simulate the activities of a child learning his first language (Baker, 1971; Arnold & Taylor, 1969; Adkins, 1971). During the early stages of the natural method, the teacher consistently uses the new language (Rivers, 1971) while her students respond to the best of their ability. Students' mistakes are not always immediately corrected. Translation is acceptable and often necessary when students are using this new language to learn content area material (Trevino, 1970). Several programs advocated a natural approach to language learning in the primary grades and a switch to the audio-lingual method in the upper grades (Lambert, 1972). Other programs advocated the use of the audio-lingual method in ESL and the use of the natural method in content area classes (Ramirez, 1971). Other programs follow a different sequence, starting with a small percentage of instruction in the second language at early grades, and gradually increasing to 50/50 by grade 5 or 6 (New York Bilingual Resource Center, 1973).

Many of the arguments over priorities and methods in the language component of bilingual education stem from differing theories of first and second language acquisition. Until conclusive research in the field can point to a definite direction, it seems likely that different approaches will continue to be implemented. The theories discussed here have been approaches to the complicated problem of first and second language acquisition as it relates to classroom curriculum planning. It should be kept in mind that these approaches cannot be looked at outside the context of the community's desire for bilingualism.

The Cultural Component of Bilingual-Bicultural Education

According to Kjolseth (1972) and Gaarder (1970), the cultural component of bilingual education is too often superficially incorporated in the development of bilingual education programs. In his review of the early 75 bilingual programs, Gaarder discusses the importance of cultural differences in the socialization of children as these differences might relate to the child's learning experiences. In many cases, Gaarder felt that programs had incorporated only the external aspects of culture,such as food, clothing, and holidays. He points out that it is important not to teach culture like one teaches geography, but rather to make culture in the school.

Ramirez and Castañeda (1974) call for recognition by the school system "that the way a person communicates, relates to others, seeks support and recognition from his environment (incentive motivation) and thinks and learns (cognition) is a product of the value system of his home and community." It is argued that the schools must recognize all that the child brings to school and proceed to build on the socialization practices that are familiar to the child. Bernal & Cornejo (1974) support the idea that the processes of schooling must be congruent with the total cultural experience of the child.

In a discussion of the socialization practices of any cultural group it is necessary to consider both the intercultural and intracultural sources of variability which will be represented in any given bilingual classroom. Just as it is recognized that there is variability between cultural groups, there also is a definite probability of variability within the cultural group.

Ramirez and Castañeda have found it useful to distinguish the differences in socialization patterns among Mexican Americans in terms of traditional, dualistic, and atraditional community types. The first community is most often seen near the Mexican border, where close cultural ties are maintained with Mexico. In the second community, the child is often familiar with both the Anglo and Mexican value systems. The last community is usually found in urban or suburban areas quite distant from Mexico, where there is strong pressure to acculturate into the dominant society. Although these categories are not absolute, the authors feel they provide an important variable which should be considered when evaluating the type and impact of bilingual programs, as when planning a bilingual-bicultural curriculum. They point out that just because a child is Spanish speaking does not mean that he necessarily maintains the same value system as his Spanish speaking classmate.

There are several factors which may contribute to intracultural sources of variability, and should therefore be considered by bilingual program planners: length of residence in the United States; degree of economic and political strength of Mexican Americans in the community; degree of prejudice in the community toward the Mexican American; distance from Mexican border; identification with Mexican, Mexican American or Spanish American history; and degree of contact with members of other ethnic groups, including the mainstream Anglo American. (Ramirez & Castañeda, 1974).

DeAvila & Havassy (1974) provide another perspective on the issue of cultural factors as they may affect bilingual programs. In a recent study they found no differences between Anglo and Mexican American children on a neo-Piagetian measure which led them to conclude that Mexican American children develop cognitively at the same basic rate as Anglo American children. In addition, their data suggest that Anglo and Mexican American children who are equal with regard to Piaget's cognitive development theory may not be equal in school achievement. This finding was interpreted to mean that cognitive development in Mexican American children and perhaps other children, is not reflected in their level of school performance when compared with Anglo American middle-class children. The low achievement in schools must be attributed to reasons other than the alleged cognitive inabilities of Mexican American children, as espoused by Jensen (1971).

Whether or not one agrees with the impact of culture on learning, there is wide support for the idea that all educational experience should give a child a positive feeling with regard to his ethnic group affiliation. At the same time, there should be an effort to acquaint the learner with a knowledge of both his ethnic group and other groups that compose the larger society (Guerra 1973; Carter 1970; Castañeda 1974.)

Motivation

Educators and psychologists have provided numerous reasons to explain why a large number of children from culturally different homes tend to do poorly in school. The Mexican American child, for example, has been described as "difficult to motivate", "not achievement oriented", etc. Celia Heller (1967, 1971) concluded that Mexican American children are products of home socialization practices which "fail to stress the motive to achieve" and that this provides a partial, though important reason for the low achievement levels of Mexican American children.

In contrast to this cultural deficit explanation of the issue, the outline for a different analysis has been suggested recently by Ramirez and Castañeda (1974). These writers maintain that among certain Mexican American communities socialization practices associated with achievement appear to be based on traditional (Mexican, rural) values. This traditional Mexican family and community structure develops in the individual a strong sense of identity and sense of responsibility to the family, community and the ethnic group. Since personal identity is so strongly linked with the family, a desire to achieve for the family is developed early in certain Mexican American children. This contrasts with the more common definition of achievement adopted in the psychological literature, i.e., achievement for the benefit of the individual, with an emphasis on the competitive mode (McClelland, et al, 1953). More recently, Ramirez and Castañeda (1974) have stated that in contrast to middle class Anglo American children, who more often exhibit an achievement motive that concerns the self, traditional Mexican American children appear to be motivated to achieve in order that their families will be proud of them. Furthermore, achievement for the family appears to be generalized as achievement through cooperation. To strive for individual gain is considered by many to be a selfish pursuit. This is in accordance with the findings of Caudill and DeVos (1956) with regard to the Japanese and Japanese Americans. Competition which stresses personal advantage exclusively is seen as detrimental to one's family, community and ethnic unity. Current research (Kagan and Madsen, 1972) suggest that Mexican American children, even in the presence of adult cues indicating competition, are more likely to adopt cooperative modes than Anglo American children. These findings and set of assumptions concerning the importance of values as determinants of differences in achievement motivation may help to explain the apparent puzzling phenomenon of Mexican American children who do not appear to be "motivated" or "achievement oriented".

Motivation and Second Language Learning

Motivation is considered to be an especially important variable in language learning (Lambert, 1972); that is, the more desirable learning a second language is to a child, the easier it is for him to learn it. If a child has a positive attitude toward the English-speaking community and wants to relate to it, he will most likely learn English more readily. If an English-dominant social group demeans or stigmatizes the home language of the child, it often affects the child's desire to achieve a high degree of language proficiency and tends to affect the child's self concept.

Every child learns a great deal of his language from his peers, and one of his strongest motivations for language learning is his desire to communicate with them. Because of this motivating force, Saville-Troike (1973) suggests that educators must provide as much opportunity for inter-child communication as possible. It is felt that programs which assign English-speaking children to one area and non-English-speaking children to another are failing to recognize or utilize one of the most powerful psychological factors in language learning. It is further stated that children from diverse language backgrounds will readily learn to communicate with one another when they have both need and opportunity to do so.

In an attempt to explain cultural differences in intellectual patterns (i.e., ways of classifying and synthesizing information about the environment), several researchers have discussed the field independent vs. field sensitive concept of cognitive styles (Cohen, 1969; Ramirez and Price-Williams, 1974; Ramirez and Castañeda, 1974). This concept was originally described by Witkin, Dyk, Faterson, Goodenough and Karp (1962). In the former mode of perception the individual tends to focus on the separate parts of the total environment. In the latter mode of perception the individual tends to view the environment as a complete unit which dominates perception of its parts. From the research in this area, field independent children have been found to perform more effectively on analytical tasks, to learn material more readily when it is impersonal, and to be less affected by the opinions of others (Cohen, 1969; Messick, 1970; Ramirez, 1973, Ramirez & Castañeda, 1974). In contrast, field sensitive children perform more effectively on the verbal parts of intelligence tests, learn material more readily if it is presented in a social context, and appear to be sensitive to the opinions of others, especially figures of authority.

The initial studies that have been conducted with Mexican American children showed that, in general, Mexican American children tended to be more field sensitive in cognitive style. The Anglo American children tended to be more field independent. The researchers note that not all Mexican American children should be viewed as field sensitive; however, many of the cultural values inculcated in the Mexican American child (especially in the traditional home) tend to result in a field sensitive rather than field independent learning style. It has been said that most school environments reflect the characteristics of a field independent cognitive style (Cohen, 1969). If this is in fact the case, it would appear to have important ramifications in the design of a bilingual-bicultural curriculum.

The issue of cognitive styles has been criticized by DeAvila & Havassy (1974). They suggest that this line of investigation emphasizes the differences between Anglo and Mexican Americans, while de-emphasizing the overlap of the two groups. Furthermore, they believe that this argument of cognitive styles would suggest curriculum for Mexican American students which eliminates or minimizes tasks requiring the abstract manipulation of impersonal data.

Saarni (1973),using Piagetian tasks and Witkin's rod and frame task, found that Piagetian developmental level significantly predicted problem solving performance. With regard to the Witkin task, however, field independence did not clarify the importance of individual differences within or across developmental levels. Saarni did find sex differences. Females at the highest level of cognitive functioning were more field sensitive than other females. He concludes that socio-cultural factors have an impact on rod and frame performance.

There is growing support for the notion that Mexican American students who have maintained cultural ties are more likely to succeed academically than those who have left their cultural ties (Campbell, 1973; Espinoza, 1971; Romano, et al, 1971; Ramirez & Castaneda, 1974). Consequently, difficulty may arise in a heterogeneous society when the culture of the child is obviously different from that of the school and he/she is forced to relinquish either the home or school culture. At this point there may be a break in the natural continuation of his acquisition of the culture of his community, including skills, knowledge, attitudes and values. If this occurs, the child is hindered from acquiring the knowledge of how to be an adult within his own community.

The advocates of cultural continuity emphasize the importance of bicultural education. The bicultural process is seen as the acquisition of another culture, not as a replacement of one's primary values but rather as the acquisition of a second set of cultural components. It is felt that the discontinuity between the two cultures may be lessened by presenting to the child the home culture as well as the one represented in the schools. In addition, it is advocated that the content of the dominant culture be presented within the learning style of the home culture, so as to lessen the child's internal conflicts in a disjunctive schooling situation.

To an overwhelming degree, the literature related to cultural components in the bilingual classroom supports the idea that bilingual school environments should celebrate the child's cultural differences; and at no time should the child be forced to violate his cultural patterns in such a way as to demean his cultural group. It is generally held that acceptance of the child's home cultural values will inevitably foster a positive self image on the part of the child (Peñalosa, 1970).

Most important, is the finding that the bicultural individual can function effectively in two socio-cultural systems (Valentine, 1971; Ramirez & Castañeda, 1974). Because children may come to school with a different set of cultural values and world view than the dominant societal culture, it is only reasonable to build upon this knowledge of the world, thereby providing the child with the facility to function effectively within two systems.

Classroom Variables

Research to date on which classroom processes are most effective in terms of optimal student attitudes and achievement is inconclusive. For example, we do not yet know for sure that there are academic advantages for all children in such practices as grouping, team teaching, enrichment programs, or individualized instruction. Every innovation that has been introduced into the American school system in recent decades has its group of proponents; however, in view of the lack of unconflicting evidence, the question of what should happen within the classroom must remain open. With this in mind, this section of the review will not be a discussion of the literature on classroom variables in general, but rather will concentrate on those considerations that seem most important in bilingual education.

Materials

Several researchers in this area have emphasized the need for curriculum materials which reflect the students cultural orientation. Kaplan (1973) states that to have a successful bilingual program the key cultural elements affecting learning should be understood and included in the planning of classroom activities. He also suggests that curriculum materials be based on culture patterns of the students rather than being translations or adaptations of existing materials designed for English speaking students. These patterns are likely to affect both the students' abilities to adapt to the school setting and the success of the school in adapting the bilingual-bicultural programs to the students educational needs.

Andersson (1970) points out the need to adapt curriculum materials to socialization patterns, which are part of the students' two cultures, home and school. Ramirez and Castaneda (1974) state the need for the school to include in its curriculum materials the value system which results in the unique learning incentives and motivational styles of the student. They believe that Mexican American parents will more readily support the school that recognizes the worth of their culture. In addition, Bernbaum (1972) states that the bicultural aspects of the curriculum are as important as those related to bilingualism, and that to develop an effective bilingual curriculum one must be aware of the interaction between the two languages and cultures.

One document (National Puerto Rican Development and Training Institute, 1973) suggests that the libraries of bilingual program schools should have comparable quantities of materials in both of the languages taught. On the other hand, Andersson & Boyer (1970) quote Mackey as saying that bilingual programs should make use of available materials (including materials from other countries) before investing heavily in expensive, low circulation materials.

Although there is general agreement that instructional materials should be culturally relevant, a survey of ongoing bilingual programs indicates that appropriate materials are not readily available (Development Associates, 1974).

Classroom Grouping

Several opinions appear in the literature about the effects of different ways of grouping students within a bilingual classroom. One theory is that homogeneous grouping will facilitate language learning (Campbell, 1973). Many authors share the opinion that heterogeneous grouping may overshadow and embarrass low ability students, and result in a lack of participation of these students in classroom activities. Advocates of homogeneous grouping include Lambert & Tucker, 1972; Hughes & Harrison, 1971; Magana, 1972; Ballesteros, 1970; Logan, 1970.

Other writers stress the importance of heterogeneous grouping for language learning (Peña, 1971; Saville-Troike, 1973, among others). They reason that in this type of grouping children will help each other and will have the opportunity of hearing different levels of language proficiency (cf. p. 24).

A third theory is that there is no "best" way of grouping students. Advocates of this theory believe that grouping should be based on the instructional purposes of a given classroom situation (National Puerto Rican Development and Training Institute, 1973).

There is some indication that if students are grouped according to their language ability, language instruction will be more successful (Valencia, 1972). This is supported by Turner (1973), with the qualification that if students are initially separated for language instruction, they should be in mixed groups by the third or fourth grade. A description of bilingual programs by the New York Bilingual Resource Center (1973) states that schools should provide integrated classroom settings through individualized instruction, rather than segregation of children by language. Saville-Troike (1973) indicates that putting linguistic minorities in "special" classes hampers second language learning. The Puerto Rican report (1973) favors the use of peer group learning for both language and non-language learning, on the basis that children learn effectively from each other. Andersson (1964) indicates that higher achievement will occur in bilingual/bicultural programs having approximately equal numbers of Spanish and English-dominant students.

Classroom Climate

To say that students will learn more and teachers will teach better if they feel at home in the classroom environment is a matter of common sense. A positive classroom climate seems particularly critical when teachers are working in a bilingual classroom where different cultures are present and where some of the students do not understand the language that the others speak. Unfortunately, the literature provides very little guidance about which strategies and skills will best promote a supportive and non-threatening climate. What little discussion there is centers on the issue of a highly structured vs. an open classroom.

Bordie (1972), for example, theorizes that a highly structured program would be more successful for linguistically differing students. No other support was found for this theory, although it can be assumed that ESL approaches require more structure in the learning situation than do the natural approaches.

Other writers feel that it is appropriate for a bilingual program to create a classroom atmosphere which allows the student to find his own medium of instruction (Sancho, 1972; Broman, B. L., 1972); to accept, understand and experience happy and positive feelings by the opportunity to ask questions and explore the environment (Keith, 1969; National Puerto Rican Development and Training Institute, 1973); and to participate in decision-making (Fishman, 1973). Ramirez & Castaneda (1974) have found significant differences between the teaching styles of those mothers observed in traditional Mexican American communities and those observed in

Anglo American communities. The former tended to use a type of modeling and imitation strategy, while the Anglo American mother tended to use a more exploratory method when teaching the child. This would appear to have implications for the types of interactions that should be fostered in the classroom by the teacher.

Teacher Attitudes

It is a truism to state that teachers' attitudes have a positive or a negative effect on students' attitudes and desire to learn. However, the specific ways in which teachers' attitudes affect students' behavior are largely unknown. There is reason to believe that these effects are increased during the early grades and they therefore deserve special attention within the setting of bilingual programs.

A recurring theme in the literature is that it is important for teachers to have and to demonstrate positive attitudes toward the student's language and culture (Bernbaum, 1972; Romano, 1971; Adkins, 1971; Southwest Educational Development Laboratory, 1969; Carter, 1970; Ulibarri, 1970; Saville & Troike, 1970; Campbell, 1973).

One way of fostering more positive teacher attitudes is through self-awareness. Teachers need to be aware of their own attitudes toward the language of the child (Shuy and Williams, 1973; Shuy, Baratz & Wolfram, 1969; Politzer & Ramirez, 1973). The way teachers feel about their own cultural and linguistic identity is an important factor in the way they relate to children of the same or different cultural backgrounds. It is said that most teachers are members of the middle class, accept its values, and feel justified in demanding middle-class standards from all children. One theory is that teachers who have recently migrated to the middle-class from lower-class origins may reject children from the same background because of the threat to their change of identity.

At least one writer theorizes that teachers may feel threatened by the performance of Spanish-dominant students, if their teaching efficiency is to be judged by student achievement. This in turn may create negative attitudes on the teacher's part toward the student (Espinoza, 1971).

Another important aspect of teacher attitude is that of expectation. Several writers feel that Anglo teachers often have lower expectations for their Mexican American students, and that these low expectations are directly related to many of the difficulties that Mexican American students experience in today's schools (Bracy, 1970; Romano, 1971; Adkins, 1971; Carter,1970; Ulibarri, 1970; Saville & Troike, 1970). Campbell (1971) states that Spanish-speaking students will learn how to speak English faster and better if the teacher has the same high expectations of that child as she does of an Anglo student.

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APPENDIX II-A-2

VARIABLES OF INTEREST IN THE EVALUATION OF BILINGUAL EDUCATION PROGRAMS

APPENDIX II-A-2

Variables of Interest in the Evaluation of Bilingual Education Programs

In the following list, each separate item represents a major area of concern and interest to the Impact Study, along with the important variables related to each area. Various methods for assessing these variables will be investigated, and appropriate data collection instruments will be developed or selected for all areas where it appears feasible to obtain information in the field within the time and cost constraints of the study. Each item is phrased in the same way, i.e., What is the relationship between (the following variables) and student outcome measures? Student outcome measures are defined as Language Arts skills in Spanish and English; Mathematics skills; and attitudes and self-concept.

1. What is the relationship between teacher/staff background characteristics and student outcome measures?
   a - ability to speak the child's language
   b - formal education and professional training as a teacher
   c - formal education and professional training as a bilingual teacher
   d - teaching experience
   e - bilingual teaching experience
   f - localism
   g - SES as a child
2. What is the relationship between teacher/staff cultural identity and student outcome measures?
   a - member of child's cultural group
   b - member of dominant cultural group
   c - member of foreign culture
3. What is the relationship between language dominance of the instructional staff and student outcome measures?
   a - dominance in English
   b - dominance in standard Spanish
   c - dominance in local dialects or variants of Spanish

4. What is the relationship between teacher/staff attitudes toward languages used by children in the classroom and student outcome measures?
   - a - attitudes toward English
   - b - attitudes toward standard Spanish
   - c - attitudes toward dialectical variations of Spanish

5. What is the relationship between teacher/staff attitudes toward ethnicity of children in the classroom and student outcome measures?
   - a - attitudes toward white non-Hispanics
   - b - attitudes toward Mexican-Americans
   - c - attitudes toward Cubans
   - d - attitudes toward Puerto Ricans
   - e - attitudes toward other ethnic groups

6. What is the relationship between teacher/staff attitudes toward the socioeconomic status of children in the classroom and student outcome measures?
   - a - attitudes toward low SES children
   - b - attitudes toward middle SES children
   - c - attitudes toward high SES children

7. What is the relationship between teacher expectations and student outcome measures?
   - a - expectations about academic aptitude of students
   - b - expectations about achievement level of students
   - c - expectations about student motivation

8. What is the relationship between the presence of project support personnel (counselors; home/school coordinators; specialists in curriculum, materials development, media; supervising teachers; consultants) and student outcome measures?
   - a - role
   - b - involvement in project
   - c - ethnicity
   - d - language dominance
   - e - experience in bilingual education

9. What is the relationship between variations in staffing patterns over the life of the project and student outcome measures?
   - a - changes in language dominance of staff (e.g., presence of monolingual vs. bilingual personnel)
   - b - changes in number and kind of support personnel
   - c - changes in staff roles
   - d - changes in ethnicity
   - e - changes in qualifications of instructional staff
   - f - overall staff stability

10. What is the relationship between preservice and inservice training programs for the staff and student outcome measures?
    - a - training in teaching skills (lesson planning, student evaluation, etc.)
    - b - training in language teaching skills
    - c - training in human relations skills
    - d - training in cultural awareness and sensitivity
    - e - training in techniques for home/community involvement
    - f - training in skills and techniques of program implementation (writing of objectives, evaluation, intra-staff coordination, materials development, etc.)
    - g - lessons in second language

11. What is the relationship between teacher/staff responsibility for the project and student outcome measures?
    - a - basis of assignment to project (volunteer vs. assigned)
    - b - involvement in program planning
    - c - involvement in decision-making
    - d - involvement in program implementation
    - e - involvement in development of materials
    - f - authority to make changes

12. What is the relationship between staff interactions (vis a vis responsibility and authority) and student outcome measures?
    - a - interactions between instructional staff and project director
    - b - interactions between instructional staff and school principal
    - c - interactions between project director and school principal

13. What is the relationship between the duties of aides and student outcome measures?

a - aides as community liaison workers
b - aides as cultural resource persons
c - aides as instructors
d - aides as tutors
e - aides as clerks
f - aides as playground, hall, or lunchroom monitors

14. What is the relationship between the aide's role and status in the project and student outcome measures?

a - student perceptions of aides as role models
b - prestige and authority of aides in relation to the teacher

15. What is the relationship between the school milieu within which the project operates and student outcome measures?

a - attitude and support of school principal
b - attitude of non-program teaching staff
c - attitude of non-program students

16. What is the relationship between the project director's qualifications and training and student outcome measures?

a - knowledge of instructional programs and materials, their implementation, and assessment
b - leadership qualities
c - public relations skills
d - professional training in education
e - experience in education
f - professional training in bilingual education
g - experience in bilingual education
h - cultural identity
i - language dominance
j - localism

17. What is the relationship between various methods for enlisting community and parental support and student outcome measures?

a - hiring of community members/parents for project work

- b - contacts with community groups and leaders
- c - use of media
- d - communication with parents via home visits, messages in home language, etc.
- e - classroom activities for parents
- f - community service activities (adult classes, social events, health care, etc.)

18. What is the relationship between support for the project at the district level and student outcome measures?
    - a - attitudes of school board members
    - b - district funds and resources available to project
    - c - support services (libraries, training, consultants, etc.) available to project

19. What is the relationship between support for the project at the state level and student outcome measures?
    - a - state legislation mandating bilingual education
    - b - state funds and resources available to project
    - c - teacher-training programs in bilingual education

20. What is the relationship between the use of Advisory Committees and student outcome measures?
    - a - committee's role
    - b - degree of involvement
    - c - composition (parents, aides, community leaders, others)
    - d - ethnicity

21. What is the relationship between parental involvement in the project and student outcome measures?
    - a - parents' role
    - b - degree of involvement
    - c - attitude toward project
    - d - ethnicity
    - e - language dominance

22. What is the relationship between language instruction in English and Spanish and student outcome measures?

a - time devoted to language instruction in each

b - methodology of language instruction in each

c - continuity through grades of language instruction

23. What is the relationship between language usage in the school and student outcome measures?

    a - content areas in which language is used

    b - how often language is used

    c - by whom language is used (teacher, students, aides, etc.)

    d - where language is used

24. What is the relationship between the reading program and student outcome measures?

    a - teacher-training in reading

    b - language used in initial instruction

    c - degree of language dominance of child

    d - time devoted to reading instruction

    e - parent support for reading in native vs. second language

25. What is the relationship between the cultural component of the project and student outcome measures?

    a - teaching of heritage (songs, dances, festivals, etc.)

    b - presence of affective elements (attitudes toward language, value orientation, etc.)

26. What is the relationship between the use of culturally relevant materials and student outcome measures?

    a - source of material (foreign, locally developed, U.S. but not locally developed)

    b - subject matter area in which used

    c - amount of time used

    d - instructional quality of materials (adequacy for meeting objectives)

    e - kinds of materials used (textbooks, library books, audiovisuals, artifacts, etc.)

27. What is the relationship between classroom grouping patterns and student outcome measures?

    a - basis for grouping (language proficiency, achievement level, etc.)

    b - flexibility of grouping (time in groups, size, etc.)

    c - ethnic mix in group

28. What is the relationship between the classroom environment and student outcome measures?

a - richness of resources

b - freedom of student movement

c - extent of individualized instruction (pacing, teacher vs. student-directed activities, selection of materials, etc.)

d - interactions between student and peers

e - interactions between student and teacher/staff

29. What is the relationship between the use of diagnostic information about students and student outcome measures?

a - assessment of language proficiency

b - assessment of academic skills and achievement levels

c - assessment of attitudes and behaviors

30. What is the relationship between formative evaluation and student outcome measures?

a - kinds of formative evaluation carried out

b - usefulness of results

c - utilization of results by staff

31. What is the relationship between community characteristics and student outcome measures?

a - SES level

b - rural vs. urban

c - proximity to border

d - mobility patterns

e - resources

f - language dominance

g - ethnicity

h - project support

32. What is the relationship between characteristics of the student's home and student outcome measures?

a - SES level

b - parents' expectations for student

c - language of the home

d - cultural identity of the home

e - attitude toward other cultures
f - attitude toward education
g - attitude toward project

33. What is the relationship between student characteristics and student outcome measures? (Some of the characteristics may serve both as predictors and outcome measures; some may be "moderators" of program success.)

a - SES
b - language dominance
c - ethnicity
d - number of years in project
e - number of years in country
f - attitude toward self
g - attitude toward the school
h - attitude toward education
i - attitude toward the project
j - attitude toward native and second language
k - attitude and motivation toward second language learning
l - motivational incentives
m - perceptions of cultural continuity between school and home

APPENDIX III-B-1

EDUCATIONAL EXPERIENCE ANALYSIS GUIDE
PROJECT, SCHOOL, AND CLASSROOM LEVELS

Study of Bilingual Education Programs
Conducted by the American Institutes for Research
Under Contract to the U.S. Office of Education

EDUCATIONAL EXPERIENCE ANALYSIS INTERVIEW GUIDE

Project Level

City ______________________ State ______________________

School District ______________________

Schools:

____

____

____

____

____

____

____

____

____

____

Interviewer ______________________ Date ______________________

Individuals interviewed:

Name	Title

1. SUPPORT PERSONNEL

F = FULL TIME
P = PART TIME

		LANGUAGES				ETHNICITY					YEARS IN PROJECT					CAPACITY				
	TOTAL NUMBER	SPANISH	ENGLISH	BI-LINGUAL SPAN/ENG.	OTHER	HISPANIC	AMERICAN INDIAN	ASIAN	BLACK (NON-HISPANIC)	CAUCASIAN (NON-HISP.)	1 YR. OR LESS	2 YEARS	3 YEARS	4 YEARS	5 YEARS +	WORK DIRECTLY W/ TEACHERS	WORK DIRECTLY W/ STUDENTS	WORK DIRECTLY W/ PRINCIPAL	WORK DIRECTLY W/ PROJECT DIRECTOR	WORK DIRECTLY W/ PARENTS
TEACHERS F																				
TEACHERS P																				
AIDES F																				
AIDES P																				
VOLUNTEERS F																				
VOLUNTEERS P																				
PSYCHOLOGISTS F																				
PSYCHOLOGISTS P																				
PSYCHOMETRISTS F																				
PSYCHOMETRISTS P																				
LEARNING DIS. F																				
LEARNING DIS. P																				
REMED. READING F																				
REMED. READING P																				
SPEECH/HEARING F																				
SPEECH/HEARING P																				
PHYSICAL DIS. F																				
PHYSICAL DIS. P																				
CURRICUL./MAT. SP. F																				
CURRICUL./MAT. SP. P																				
MEDIA-DEV. SPEC. F																				
MEDIA-DEV. SPEC. P																				
PROF. CONSULTANTS F																				
PROF. CONSULTANTS P																				
SCH./COM. LIAISON F																				
SCH./COM. LIAISON P																				
PROJECT DIRECTOR F																				
PROJECT DIRECTOR P																				

2. Total number of schools in this project ____________.

3. Total number of classes in this project ____________.

4. Total number of students in this project ____________.

5. How many Project Directors has this Title VII project had?

___ one

___ two

___ three

___ four or more

6. Grades in which this Title VII project operated/operates:

Grades

	Pre K	K	1	2	3	4	5	6	7
1971-72									
1972-73									
1973-74									
1974-75									
1975-76									

7. After the spanish dominant child is able to function in school in English, what happens to the child?

___ The child remains in the bilingual program
___ The child is transferred to a regular (English-speaking only) classroom with some Spanish language follow-up
___ The child is transferred to a regular (English-speaking only) classroom with no Spanish language maintenance
___ Other: specify________________________________

8. What happens to an English dominant child whe he/she becomes proficient in Spanish?

___ The child remains in the bilingual program
___ The child is transferred to a regular (English-speaking only) classroom with some Spanish language follow-up
___ The child is transferred to a regular (English-speaking only) classroom with no Spanish language follow-up
___ Other: specify________________________________

9. Total bilingual project funds for the 1975-76 school year $______

10. What is the source of this funding?

	1-25%	26-50%	51-75%	76-100%
Title VII				
Other Federal Funding				
State				
Local School District				
Local Community groups				
Private Foundations Academic Institutions				

11. In which of the following ways has the state supported the bilingual project?

___ Technical assistance (consultants, specialists, etc.)
___ Informational guidance (news of legislation, of other programs--dissemination of relevant information concerning bilingual education)
___ Teacher training programs in bilingual education

___ Special resources (materials, texts, etc.)

___ Other: specify______________________________

12. In which of the following ways has the distric supported the bilingual project?

___ Technical assistance (consultants, specialits, etc.)

___ Informational guidance (dissemination of relevant information concerning bilingual education)

___ Teacher training programs (workshops, seminars, etc.)

___ Special resources (A-V center, library materials, texts, etc.)

___ Other: specify______________________________

13. During the current school year, will you make use of any of the following to publicize your Title VII project?

Newspaper(s)	__Yes	__No
Radio	__Yes	__No
T.V.	__Yes	__No
Filmstrip(s)	__Yes	__No
Newsletter (s)	__Yes	__No

other: specify________________________________

14. The attitude of the school board toward this Title VII project is:

___ very positive
___ moderately positive
___ indifferent
___ moderately negative
___ very negative

IS THERE ONGOING EVALUATION OF:			How obtained							Language in which obtained			How used			Frequency of evaluation			
	no	yes	Parent/community opinion	Parent/community questionnaire	Teacher opinion	Teacher questionnaire	Student opinion	Student questionnaire	Student cognitive test scores	English only	Spanish only	English and Spanish depending on individ.	Confirm attainment of objectives	Modify project procedures	Other	weekly (or	monthly	yearly	other
Student attitude/self concept																			
Curric. & mat'ls development																			
Parent/commun. involvement																			
Student achvmnt (Span.L.A.)																			
Student achvmnt (Eng.L.A.)																			
Student achvmnt (Math)																			
Staff Development																			

Study of Bilingual Education Programs
Conducted by the American Institutes for Research
Under Contract to the U.S. Office of Education

EDUCATIONAL EXPERIENCE ANALYSIS INTERVIEW GUIDE

School Level

City______________________ State____________________

School District____

School____

Interviewer________________________ Date______________

Individuals interviewed________________________________

Names	Titles
______________________	____________________
______________________	____________________
______________________	____________________
______________________	____________________

SCHOOL LEVEL INFORMATION

1. Which language do the students in the school generally use outside the classroom - for example on the playground, in the lunchroom?

____ Spanish

____ English

____ Both

____ Other: specify ______________________________

2. Estimate the percentage of families in the school attendance area who are:

___Monolingual English	____%
___Monolingual Spanish	____%
___Bilingual Spanish/English	____%
___Bilingual English/Other	____%
___Bilingual Spanish/other	____%
___Other: Specify________________	____%
Total	100%

3. What is the total enrollment of the school?

4. Of the total student enrollment in this school, estimate the percent who are in each of the following ethnic groups.

___% are of Central American descent
___% are of Cuban descent
___% are of Mexican descent
___% are of Puerto Rican descent
___% are of South American descent
___% are of Spanish (from Spain) descent
___% are Dominican
___% are White other than the above
___% are American Indian
___% are Asian
___% are Black
___% are ________________________

______
100%

5. In terms of residents (exclude commuters coming in to work each day) the neighborhood in which the school is located has a density of population about the same as...

___ an inner-city high-rise housing complex

___ mixed single-unit and multiple-unit dwellings

___ primarily single units on small lots (less than 1/4 acre)

___ primarily single units on large lots (more than 1/4 acre)

6. Indicate the dominant type of occupation of families served by the school

___ Professional persons
___ Farmers (owner or tenant)
___ Proprietors, managers, or officials
___ Clerks, typists, or other office workers
___ Skilled workers or foremen
___ Semiskilled workers
___ Farm laborers
___ Other laborers
___ Servant occupations

7. Check the interval that best represents the average gross annual income of families served by the school.

___ Less than $2,000
___$2,000 to$3,999
___$4,000 to$5,999
___$6,000 to$7,999
___$8,000 to$9,999
___$10,000 to$14,999
___$15,000 to$$19,999
___$20,000 or more

8. What is the best estimate of the current rate at which students move into or out of the school. (Consider, for example, whether most families rent or own their own homes, and how long the typical resident has lived in the neighborhood.)

9. What is the general attitude of most families served by the school with respect to racial or ethnic matters? (consider status of integration, racial unrest, and the procedures of law enforcement agencies relative to etchnic and social problems.)

___ very tolerant

___ tolerant

___ neither tolerant nor intolerant

___ intolerant

___ very intolerant

10. What is the per pupil cost at this school? ____

Compute by: District level per pupil cost________ (a)

Additional funds for this school________

divided by number of pupils ________ =______ (b)

PER PUPIL COST_________ (a+b)

11. How many bilingual classrooms are there in this school? ___________

How many are in the Title VII project? __________

12. What is the source of this funding?

	1-25%	26-50%	51-75%	76-100%
Title VII				
Other Federal Funding				
State				
Local School District				
Local Community groups				
Private Foundations Academic Institutions				

Study of Bilingual Education Programs

Conducted by the American Institutes for Research
Under contract to the U.S. Office of Education

EDUCATIONAL EXPERIENCE ANALYSIS INTERVIEW GUIDE

Classroom Level

City________________________ State________________________

School District____________________________

School____________________________________ Grade___________________

Interviewer______________________ Date_________________________

Individuals interviewed:

Name	Title

CLASSROOM INFORMATION

STUDENTS:	CENTRAL AMERICAN	CUBAN	DOMINICAN	MEXICAN	PUERTO RICAN	SOUTH AMERICAN	SPANISH FROM SPAIN	NATIVE AMERICAN	WHITE (OTHER THAN ABOVE)	ASIAN	BLACK	OTHER	TOTAL CLASS ENROLLMENT	
ETHNIC COMPOSITION														PLEASE INDICATE BY NUMBER

AIDES: (last name)	PAID	SPANISH-SPEAKER	ENGLISH-SPEAKER	BILINGUAL ENG/SPAN OTHER	INSTRUCTIONAL TUTORIAL	CULTURAL RESOURCE	CLERICAL (PAPERWORK)	PARENTAL LIAISON	PLAYGROUND, HALL, LUNCH	OTHER:	TOTAL HOURS/WEEK
1)											
2)											
3)											
4)											
5)											
6)											
7)											
8)											
9)											
10)											

FOR EACH CLASSROOM AIDE, PLEASE CHECK OFF THE APPROPRIATE INFORMATION.

CLASSROOM SUPPORT PERSONNEL

F = FULL TIME
P = PART TIME

				LANGUAGES				ETHNICITY					YEARS IN PROJECT					
			TOTAL NUMBER	SPANISH	ENGLISH	BILING. SPAN/ENG.	OTHER	HISPANIC	AMERICAN INDIAN	ASIAN	BLACK (NON-HISPANIC)	CAUCASION (NON-HISPANIC)	1 YR. OR LESS	2 YEARS	3 YEARS	4 YEARS	5 YEARS +	AMT. TIME/WK SPENT IN CLASSROOM HOURLY
TEACHERS	CLASSROOM TEACHER	F																
	CLASSROOM TEACHER	P																
	TEAM TEACHER	F																
	TEAM TEACHER	P																
	AIDES	F																
	AIDES	P																
	VOLUNTEERS	F																
	VOLUNTEERS	P																
	MUSIC TEACHER	F																
	MUSIC TEACHER	P																
	ART TEACHER	F																
	ART TEACHER	P																
	CULTURAL RESOURCE	F																
	CULTURAL RESOURCE	P																
	LIBRARIAN	F																
	LIBRARIAN	P																
SPECIALISTS	PSYCHOLOGIST	F																
	PSYCHOLOGIST	P																
	PSYCHOMETRIST	F																
	PSYCHOMETRIST	P																
	REMEDIAL READING	F																
	REMEDIAL READING	P																
	SPEECH/HEARING	F																
	SPEECH/HEARING	P																
	LEARNING DISABILITY	F																
	LEARNING DISABILITY	P																
	CURRIC/MATERIALS SPEC.	F																
	CURRIC/MATERIALS SPEC.	P																
	MEDIA DEVEL. SPEC.	F																
	MEDIA DEVEL. SPEC.	P																
	PROFESS. CONSULT.	F																
	PROFESS. CONSULT.	P																
	SCHOOL COMMUN. LIAISON	F																
	SCHOOL COMMUN. LIAISON	P																

SECOND LANGUAGE INSTRUCTION

SPANISH
ENGLISH
(circle one)

CHARACTERISTICS									LANG. USE*			WRITING					ORAL												READING							TEACHERS								GROUPED BY							TIME			
	SIZE	SPAN	ENG	BILI	HIGH	MED	LOW		DIRECT TRANSLATION	BILINGUAL SP/ENGL.	TOTAL IMMERSION	SPELLING/VOCAB.	GRAMMAR	MECHANICS	DICTATION	COMPOSITION	ORAL DRILLS:	PRONUNCIATION	SENTENCE PATTERN	SENTENCE COMPLET.	VOCABULARY BUILDING	CONTROLLED CONVERS.	DISCUSSION:	SPECIFIC TOPIC	FREE/SHARING	STRUCTURED DIALOG	ROLE PLAYING	PLAYS/SKITS/POEMS	PHONICS	ORAL READING	SILENT READING	READING COMPREHENS.	LISTENING COMPREHENS.	LITERATURE/STORIES	LIBRARY/ENRICHMENT	CLASSROOM TEACHER	TEAM TEACHER	OTHER TEACHER	ESL	SSL	READING SPECIALIST	AIDE	VOLUNTEER	ABILITY	LANGUAGE DOMINANCE	SKILL NEED	RANDOM		REGROUPED-	D-W-M-U-R-N	HRS/WK - ORAL	HRS/WK - WRITTEN	HRS/WK - READING	HRS/WK - TOTAL
								ENTIRE CLASS																																														
								INDIV. INSTRUCT.																																														
								INDIV. INSTRUCT. GROUPING BY NEED																																														
								GROUP A																																														
								GROUP B																																														
								GROUP C																																														
								GROUP D																																														
								GROUP E																																														

A-70

1. What is the criteria for designating high, med., low?
2. List names in each ESL or SSL group:

* Code:
A = Always
O = Often
S = Sometimes
R = Rarely

D = DAILY
W = WEEKLY
M = MONTHLY
U = UNIT/CONTRACT
R = RARELY

CL
5

LANGUAGE ARTS READING CHARACTERISTICS							SPANISH ENGLISH (circle one)	WRITING								ORAL WORK							READING								TEACHERS									RE-GROUPING			
SIZE	SPAN	ENG	BILIN	HIGH	MED	LOW		CAPITALIZATION	PUNCTUATION	SPELLING	GRAMMAR	CREATIVE WRIT.	NON-FICTION	TOTAL TIME OF INSTRUC.	AMOUNT OF INDEP. WORK	PLAYS	POETRY	SKITS (PUPPETS)	STORY TELLING	CHORAL READING	SHARING	TOTAL TIME/WEEK	PHONICS	READING COMPREHEN.	LIBRARY	AMT. OF INSTR./WK	AMT. OF IND. WORK	SIZE	S-E-B	H-M-L	TEAM TEACHER	OTH. TEACH/DIF.LEVEL	ESL	SSL	READING SPEC.	SPEECH/HEARING SP.	LEARNING DIS.	AIDE	VOLUNTEER	D-W-M-U-R	ABILITY	NEED	RANDOM
							ENTIRE CLASS																																				
							INDIV. INSTRUCT.																																				
							INDIV. INSTRUCT. GROUPING BY NEED																																				
							GROUP A																																				
							GROUP B																																				
							GROUP C																																				
							GROUP D																																				
							GROUP E																																				

1. What is the criteria for designating high, med., low?

S = SPAN.
E = ENG.
B = BILING.

H = HIGH
M = MED.
L = LOW

D = DAILY
W = WEEKLY
M = MONTHLY
U = UNIT/CONTRACT
R = RARELY

LANGUAGE ARTS

READING

CHARACTERISTICS							SPANISH ENGLISH (circle one)	WRITING										ORAL WORK										READING										TEACHERS										RE-GROUPING					
SIZE	SPAN	ENG	BILIN	HIGH	MED	LOW		CAPITALIZATION	PUNCTUATION	SPELLING	GRAMMAR	CREATIVE WRIT.	NON-FICTION		TOTAL TIME OF INSTRUC.	AMOUNT OF INDEP. WORK		PLAYS	POETRY	SKITS (PUPPETS)	STORY TELLING	CHORAL READING	SHARING		TOTAL TIME/WEEK				PHONICS	READING COMPREHEN.	LIBRARY		AMT. OF INSTR./WK	AMT. OF IND. WORK	SIZE	S-E-B	H-M-L	TEAM TEACHER	OTH.TEACH/DIF.LEVEL	ESL	SSL	READING SPEC.	SPEECH/HEARING SP.	LEARNING DIS.	AIDE	VOLUNTEER		D-W-M-U-R		ABILITY	NEED	RANDOM	
							ENTIRE CLASS																																														
							INDIV. INSTRUCT.																																														
							INDIV. INSTRUCT. GROUPING BY NEED																																														
							GROUP A																																														
							GROUP B																																														
							GROUP C																																														
							GROUP D																																														
							GROUP E																																														

1. What is the criteria for designating high, med., low?

S = SPAN.
E = ENG.
B = BILING.

H = HIGH
M = MED.
L = LOW

D = DAILY
W = WEEKLY
M = MONTHLY
U = UNIT/ CONTRACT
R = RARELY

CL 7

MATHEMATICS																																	
CHARACTERISTICS								CONTENT										TIME		LANG.				TEACHERS					RE-GROUPING				
SIZE	SPAN	ENG	BILIN	HIGH	MED	LOW		ADDITION	SUBTRACTION	MULTIPLICATION	DIVISION	FRACTIONS	PERCENTAGES	MEASUREMENT (TIME/WGT/LIQ)	GEOMETRY	ALGEBRA	NEW MATH	AMT. TIME INDEPEND. WORK/WEEK	TOTAL TIME OF INSTRUCTION/WK	SPANISH ONLY	ENGLISH ONLY	SPAN/ENG	OTHER	TEAM	OTHER TEACH./DIF.GRADE	AIDE	VOLUNTEER	MATH RESOURCE	D-W-M-U-R	NEED	ABILITY	RANDOM	OTHER
							ENTIRE CLASS																										
							INDIV. INSTRUCT.																										
							INDIV. INSTRUCT. W.GROUPING BY NEED																										
							GROUP A																										
							GROUP B																										
							GROUP C																										
							GROUP D																										
							GROUP E																										

1. What is the criteria for designating high, med., low?

CULTURAL COMPONENT								CONTENT											LANG. OF INSTRUCTION				TEACHER						LOCUS OF CONTROL						TIME	
CHARACTERISTICS																																				
	SIZE		SPAN	ENG	BILIN			ART	COOKING	FABLES/LEGENDS	FOLK DANCING	GAMES	GEOGRAPHY	HISTORY	HOLIDAYS	MUSIC	PEOPLE (FAMOUS)	OTHER	SPAN. ONLY	ENG. ONLY	SPAN/ENG.	OTHER	CLASSROOM TEACHER	TEAM TEACHER	RESOURCE TEACHER	AIDE	VOLUNTEER	OTHER	teacher selects topic	children select topic	both select topic	teacher assigns mat.	children select mat.	both select mat.	min./wk	times/wk
							ENTIRE CLASS																													
							INDIV. STUDENTS																													
							GROUP A																													
							GROUP B																													
							GROUP C																													
							GROUP D																													

A-74

Is this class taught as a separate unit? yes____ no____

STUDENT EVALUATION

	Is there evaluation in these areas? (if no do not mark)	STANDARDIZED TESTS	CRITERION REF. TESTS QUIZZES	OBSERVATION OF STUDENT WORK	STUDENT'S OWN ASSESSMENT	SKILLS CHECKLIST	SPANISH	ENGLISH	OTHER	ACHIEVEMENT	DIAGNOSTIC	IN ORDER TO GROUP STUDENTS	IN ORDER TO REVISE CURRICULUM OR METHODS	ONCE UPON ENTRY	PRE - POST	ONCE A YEAR	DAILY	WEEKLY	MONTHLY	BY UNIT/BY REFERRAL	U.S. COMMERCIAL	FOREIGN COMMERCIAL	LOCAL	
	YES	MEANS					LANGUAGE			PURPOSE				FREQUENCY							DEVELOPERS			
Language Dominance																								
Self Concept																								
Spanish Language Arts & Reading																								
English Language Arts & Reading																								
Math																								
Cognitive/IQ tests																								
Speech/Sight/Hearing																								
Psychological																								

CLASSROOM MATERIALS	INSTRUCTIONAL MATERIALS									
SUBJECT/DEVEL.	chalkboard	textbooks	workbooks	exercise sheets	charts/maps	games, puzzles	flash cards	other:manipulative		pets
SPANISH LANG. ARTS & READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
ENG. LANG. ARTS READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
MATH	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										

	AUDIO-VISUAL EQ.									
SUBJECT/DEVEL.	tape recorder/earphones	record player	television	film strip projector	overhead projector	movie projector	cassettes	records	filmstrips	movies
SPANISH LANG. ARTS & READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
ENG. LANG. ARTS READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
MATH	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										

	DISPLAYS									
SUBJECT/DEVEL.		child oriented	subject oriented	teacher produced	multicultural	Eng. culture	Spanish culture	bi-cultural		incorporated into learn. task
SPANISH LANG. ARTS & READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
ENG. LANG. ARTS READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
MATH	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										

	GEN. SUPPLIES									
SUBJECT/DEVEL.		arts & crafts supplies	library books	typewriter			life experience material for cooking, carpentry, etc.			
SPANISH LANG. ARTS & READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
ENG. LANG. ARTS READING	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										
MATH	/	/	/	/	/	/	/	/	/	/
US										
FD										
LD										

	LOCUS OF CONTROL									
SUBJECT/DEVEL.	teacher/aide selects topic	child selects topic	both decide to select topic		teacher assigns mat.	children select mat.	both select mat.			
SPANISH LANG. ARTS & READING										
US										
FD										
LD										
ENG. LANG. ARTS READING										
US										
FD										
LD										
MATH										
US										
FD										
LD										

Major texts, series, used: ____________________

LD = ____________________

FD = ____________________

US = ____________________

APPENDIX III-C-2

SUPPORTING TABLE FOR CHAPTER III, SECTION C

APPENDIX III-C-2

Site Testing by Week

Site	Nov.				Dec.				Jan.				Apr.				May				June			
Douglas, Arizona		■	■												■	■								
Auburn, California		■			■								■			■								
Berkeley, California					■	■														■				
Daly City, California	■		■	■									■			■	■							
Hayward, California	■	■																■	■					
Oakland, California			■										■											
Richmond, California	■																		■					
Union City, California	■	■																■	■					
Watsonville, California		■	■															■	■					
Bridgeport, Connecticut	■				■															■	■			
Hartford, Connecticut		■							■										■	■				
Chicago, Illinois		■																	■	■				
New Orleans, Louisiana		■	■												■	■								
Chelsea, Massachusetts					■	■														■				
Detroit, Michigan					■	■														■				
Grand Rapids, Michigan			■													■								
New Brunswick, New Jersey	■																			■				
Taos, New Mexico		■	■													■	■							
Beacon, New York		■	■															■						
Buffalo, New York			■															■						
New York City, C.S.D.#3				■	■												■	■						
New York City, C.S.D.#6					■	■											■							
New York City, C.S.D.#8		■	■														■							
New York City, C.S.D.#10			■																		■			
New York City, C.S.D.#12		■																	■	■				
New York City, C.S.D.#24				■																	■			
Stony Point, New York					■	■												■	■					
Abilene, Texas				■													■	■						
Bishop, Texas		■	■										■	■										
Brownsville, Texas		■	■															■	■					
Crystal City, Texas	■	■	■	■									■											
Dallas, Texas	■	■	■	■	■													■						
Eagle Pass, Texas	■	■			■								■	■										
Pharr, Texas	■	■											■	■										
Rio Grande City, Texas	■		■										■											
Robstown, Texas					■	■											■	■						
San Antonio, Texas			■															■						

APPENDIX IV-A

SUPPORTING TABLES FOR CHAPTER IV, SECTION A

TABLE IV-A-1a

(page 1 of 5)

Student Outcome Measures by Grade and by Judged Language Dominance Group

Grade	Judged[a] Language Dominance	Skill Assessed	Outcome Measure	Source
2	Spanish Monolingual	English Vocabulary	Vocabulary Expanded Scale Score	Comprehensive Test of Basic Skills (CTBS)/Form S-Level C
		English Reading	Reading Total Expanded Scale Score	CTBS/S - Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S - Level C[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1
3/4	Spanish Monolingual	English Vocabulary	Vocabulary Expanded Scale Score	Comprehensive Test of Basic Skills (CTBS)/Form S-Level C
		English Reading	Reading Total Expanded Scale Score	CTBS/S - Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S - Level 1[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1

(continued)

---

[a] As noted previously in the report, students were assigned one of four sets of testing instruments on the basis of the teacher's judgment concerning the student's language dominance.

[b] A Spanish translation of this subtest was used.

[c] Based only on those items that are not lexically biased with respect to various Hispanic subgroups.

TABLE IV-A-1a (continued) (page 2 of 5)

Student Outcome Measures by Grade and by Judged Language Dominance Group

Grade	Judged[a] Language Dominance	Skill Assessed	Outcome Measure	Source
5/6	Spanish Monolingual	English Vocabulary	Vocabulary Expanded Scale Score	Comprehensive Test of Basic Skills (CTBA)/Form S-Level C
		English Reading	Reading Total Expanded Scale Score	CTBS/S - Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S - Level 2[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 2
2	Spanish-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S - Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S - Level C[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1

(continued)

---

[a] As noted previously in the report, students were assigned one of four sets of testing instruments on the basis of the teacher's judgment concerning the student's language dominance.

[b] A Spanish translation of this subtest was used.

[c] Based only on those items that are not lexically biased with respect to various Hispanic subgroups.

TABLE IV-A-1a (continued)

Student Outcome Measures by Grade and by Judged Language Dominance Group

Grade	Judged[a] Language Dominance	Skill Assessed	Outcome Measure	Source
3/4	Spanish-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 1[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 1[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1
5/6	Spanish-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 2[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 2[b]
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 2
2	English-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level C
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1

(continued)

---

[a] As noted previously in the report, students were assigned one of four sets of testing instruments on the basis of the teacher's judgment concerning the student's language dominance.

[b] A Spanish translation of this subtest was used.

[c] Based only on those items that are not lexically biased with respect to various Hispanic subgroups.

[d] CTBS/T was administered in the spring posttest in place of CTBS/S.

TABLE IV-A-1a (continued)

(page 4 of 5)

Student Outcome Measures by Grade and by Judged Language Dominance Group

Grade	Judged[a] Language Dominance	Skill Assessed	Outcome Measure	Source
3/4	English-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 1[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 1
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 1
5/6	English-Dominant Bilingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 2[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 2
		Spanish Reading	Prueba Total Raw Score[c]	Prueba de Lectura (debiased) Level 2
2	English Monolingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level C
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level C

(continued)

---

[a] As noted previously in the report, students were assigned one of four sets of testing instruments on the basis of the teacher's judgment concerning the student's language dominance.

[c] Based only on those items that are not lexically biased with respect to various Hispanic subgroups.

[d] CTBS/T was administered in the spring posttest in place of CTBS/S.

TABLE IV-A-1a (continued)

(page 5 of 5)

Student Outcome Measures by Grade and by Judged Language Dominance Group

Grade	Judged[a] Language Dominance	Skill Assessed	Outcome Measure	Source
3/4	English Monolingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 1[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 1
5/6	English Monolingual	English Reading	Reading Total Expanded Scale Score	CTBS/S Level 2[d]
		Mathematics Computation	Mathematics Computation Expanded Scale Score	CTBS/S Level 2
2,3,4, 5,6	All Students	Attitude Toward School	Attitude Toward School[d]	Student Questionnaire

---

[a] As noted previously in the report, students were assigned one of four sets of testing instruments on the basis of the teacher's judgment concerning the student's language dominance.

[d] CTBS/T was administered in the spring posttest in place of CTBS/S.

[e] The item content of this scale is shown in Table VI-A-2a in Appendix IV-A.

TABLE IV-A-2a

Number of Students with CTBS Reading Total Scores and with CTBS Vocabulary Scores[a] by Judged Language Dominance Group - Grade 2

Judged Language Dominance Group	Reading Total Pretest	Reading Total Posttest	Both Reading Total Pretest and Posttest	
			Number	% of Students with Posttest Score[b]
English Monolingual	958 (1023)	810 (825)	645 (693)	80% (84%)
English-Dominant Bilingual	357 (385)	397 (400)	294 (321)	74% (80%)
Spanish-Dominant Bilingual	79 (112)	88 (91)	42 (69)	48% (76%)
Spanish Monolingual	288 (441)	390 (410)	202 (304)	52% (74%)

---

[a] Shown are the numbers of students for whom a CTBS Reading Total score was computed on the basis of the test publisher's scoring rule--i.e., that a Reading Total score should be computed only when all subtests have been taken. In parentheses are similar frequencies for the number of CTBS Vocabulary scores.

[b] Percent of students with Reading Total posttest scores who also had Reading Total pretest scores.

APPENDIX IV-B

SUPPORTING TABLES FOR CHAPTER IV, SECTION B

TABLE IV-B-1a

Adjusted KR20 Reliability Coefficients for the CTBS Reading Vocabulary Expanded Standard Score

Analysis Sample/ Ethnic Group	Grade (Month)	Level[a]	CTBS/S Standardization Sample		Bilingual Impact Study Sample		
			s_Y^2	$r_{YY'}$	N_y	s_y^2	$r_{yy'}$
Hispanic	2.7	C	3364	.93	1015	2859	.92
	3.7	1	4747	.92	1436	2942	.87
	4.7	1	5300	.93	1478	3492	.89
	5.7	2	6691	.92	893	4609	.88
	6.7	2	8245	.94	429	6011	.92
White Non-Hispanic	2.7	C	3364	.93	151	2738	.91
	3.7	1	4747	.92	242	4353	.91
	4.7	1	5300	.93	224	5396	.93
	5.7	2	6691	.92	119	8932	.94
	6.7	2	8245	.94	103	9220	.95
Black	2.7	C	3364	.93	112	2534	.91
	3.7	1	4747	.92	131	3259	.88
	4.7	1	5300	.93	138	2856	.87
	5.7	2	6691	.92	85	6618	.92
	6.7	2	8245	.94	46	4757	.90
Other	2.7	C	3364	.93	109	4352	.95
	3.7	1	4747	.92	143	3980	.90
	4.7	1	5300	.93	90	4174	.91
	5.7	2	6691	.92	105	7369	.93
	6.7	2	8245	.94	53	4903	.90

[a] Number of items: Level C, 33; Levels 1 and 2, 40.

TABLE IV-B-2a

Adjusted KR20 Reliability Coefficients for the CTBS Reading Total Expanded Standard Score

Analysis Sample/ Ethnic Group	Grade (Month)	Level[a]	CTBS/S Standardization Sample[b]		Bilingual Impact Study Sample		
			s_Y^2	$r_{YY'}$	N_y	s_y^2	$r_{yy'}$
Hispanic	2.7	C	3505	.97	1019	3012	.97
	3.7	1	5013	.96	1374	3128	.94
	4.7	1	6178	.97	1456	3982	.95
	5.7	2	7208	.96	875	6589	.96
	6.7	2	8686	.96	409	6696	.95
White Non-Hispanic	2.7	C	3505	.97	153	3499	.97
	3.7	1	5013	.96	239	4360	.95
	4.7	1	6178	.97	221	6634	.97
	5.7	2	7208	.96	118	10553	.97
	6.7	2	8686	.96	102	8529	.96
Black	2.7	C	3505	.97	114	2747	.96
	3.7	1	5013	.96	126	3488	.94
	4.7	1	6178	.97	137	3395	.95
	5.7	2	7208	.96	85	8508	.97
	6.7	2	8686	.96	46	4158	.92
Other	2.7	C	3505	.97	109	4099	.97
	3.7	1	5013	.96	138	4532	.96
	4.7	1	6178	.97	89	4685	.96
	5.7	2	7208	.96	104	7420	.96
	6.7	2	8686	.96	52	4184	.92

[a] Number of items: Level C, 74; Levels 1 and 2, 85.

[b] It is possible that the Kuder-Richardson 20 internal consistency reliability coefficients reported by the test publisher may be overestimates of the reliability of the Total Reading test because one of the subtests involved paragraph completion (because of dependencies among the items pertaining to each paragraph). This and other issues related to the most appropriate measure of test reliability will be examined in greater detail in a later report.

TABLE IV-B-3a

Adjusted KR20 Reliability Coefficients for the CTBS Mathematics Computation Expanded Standard Score

Analysis Sample/ Ethnic Group	Grade (Month)	Level[a]	CTBS/S Standardization Sample		Bilingual Impact Study Sample		
			s_Y^2	$r_{YY'}$	N_y	s_y^2	$r_{yy'}$
Hispanic	2.7	C	1362	.89	1019	1345	.89
	3.7	1	2256	.95	1404	1755	.94
	4.7	1	2401	.95	1414	2117	.94
	5.7	2	4186	.92	868	3549	.91
	6.7	2	5491	.94	414	3571	.91
White Non-Hispanic	2.7	C	1362	.89	158	1124	.87
	3.7	1	2256	.95	216	1948	.94
	4.7	1	2401	.95	219	1841	.93
	5.7	2	4186	.92	120	5064	.93
	6.7	2	5491	.94	104	5157	.94
Black	2.7	C	1362	.89	106	1328	.89
	3.7	1	2256	.95	125	1857	.94
	4.7	1	2401	.95	146	2246	.95
	5.7	2	4186	.92	82	3313	.90
	6.7	2	5491	.94	45	4108	.92
Other	2.7	C	1362	.89	113	1490	.90
	3.7	1	2256	.95	144	1971	.94
	4.7	1	2401	.95	93	2257	.95
	5.7	2	4186	.92	106	4740	.93
	6.7	2	5491	.94	52	2772	.88

[a] Number of items: Level C, 28; Levels 1 and 2, 48.

TABLE IV-B-4a

Number of Socioeconomic Status Scores by Source--Grade 2

Source	Number	Percent
Computed from Student Data	1504	63.5
Missing Data Replacement		
Classroom Mean	761	32.2
School Mean	64	2.7
Title VII Site Mean	39	1.6
TOTAL	2368	

TABLE IV-B-5a

Number of Socioeconomic Status Scores by Source--Grade 3

Source	Number	Percent
Computed from Student Data	2112	71.6
Missing Data Replacement		
Classroom Mean	802	27.2
School Mean	35	1.2
TOTAL	2949	

TABLE IV-B-6a

Number of Socioeconomic Status Scores by Source--Grade 4

Source	Number	Percent
Computed from Student Data	1961	69.3
Missing Data Replacement		
Classroom Mean	795	28.1
School Mean	75	2.6
TOTAL	2831	

TABLE IV-B-7a

Number of Socioeconomic Status Scores by Source--Grade 5

Source	Number	Percent
Computed from Student Data	1180	65.5
Missing Data Replacement		
Classroom Mean	585	32.5
School Mean	36	2.0
TOTAL	1801	

TABLE IV-B-8a

Number of Socioeconomic Status Scores by Source--Grade 6

Source	Number	Percent
Computed from Student Data	690	61.4
Missing Data Replacement		
Classroom Mean	373	33.2
School Mean	24	2.1
Title VII Site Mean	37	3.3
TOTAL	1124	

APPENDIX IV-C

Notes on Missing Data and Attrition/Accretion[1]

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[1] The exploratory analyses summarized in this appendix were restricted to Hispanic students because (1) the major proportion of all Title VII and non-Title VII students sampled by the Impact Study were Hispanic and (2) Title VII/non-Title VII differences in fall to spring growth for Hispanic students were of primary interest in the impact analyses presented in Chapter VI.

A. Introduction

As explained in Chapter IV, Section D, of this report (Procedures for Selecting Students for Analysis), each statistical procedure implemented for this report utilized as much of the Impact Study data as possible. Because of the following problems (all of which are usual occurrences in both large-scale and small-scale educational evaluations), it was necessary to develop a fairly complicated set of rules by which to select students for analysis.

- Loss of test data from one site[1]
- Students leaving participating classrooms between pretest and posttest (attrition)
- Students entering participating classrooms between pretest and posttest (accretion)
- Missing data on individual variables

In general, each analysis conducted was based upon all students who had scores for all of the variables included in that particular analysis. In the case of simple frequency distributions, like those used to describe the characteristics of the students served by Title VII (Chapter V, Section A), the only students excluded were those who had a missing score on the variable of interest. However, the situation was considerably more complex with respect to the impact analyses described in Chapter VI because the general approach there was to analyze fall 1975 to spring 1976 changes in five different scores: CTBS Reading Total, Reading Vocabulary, and Mathematics Computation Expanded Standard Scores, Attitude Toward School, and Prueba de Lectura total raw score. It was decided that only those students who had both a pretest and a posttest score[2] for a particular outcome variable would be included in the growth analyses for that variable (1) to avoid changes in pretest and posttest means due entirely to changes in the student composition of the samples (brought about by students leaving or entering participating classrooms between the pretest and posttest administration dates) and (2) to permit the estimation of Title VII program impact on the basis of students exposed to a Title VII-supported educational approach for the major proportion of the 1975-76 school year. Because the pretest and posttests were collected in the fall and in the spring of the 1975-76 school year, two additional missing data factors had to be considered in selecting students for analysis--attrition and accretion. This meant that a student could be deleted from a particular analysis because he/she simply was not present in the sample during both fall 1975 and spring 1976 or because he/she happened to have a missing score for the particular test score being analyzed. Thus, exclusion from a given analysis could occur for a number of different reasons:

---

[1] Use of the data that was collected in this one site is explained in Chapter IV, Section D.

[2] Both pretest and socioeconomic status (SES) were used as covariates in these analyses. However, because of the missing data replacement procedures used for the SES score (described in Chapter IV, Section B), there were no missing data with respect to student SES.

- The student was present in a participating classroom during both fall 1975 and spring 1976 but (1) was missing a pretest measure for a particular variable, (2) was missing a posttest measure for a particular variable, or (3) was missing both the pretest and posttest measure for a particular variable.
- The student was present in the fall but not the spring.
- The student was not present in the fall but was present during the spring.

The exploratory analyses summarized here were undertaken to explore two questions regarding the students deleted from analysis because of the reasons just listed. First, were the students who were present during both fall 1975 and spring 1976 substantially different from those who were present during fall 1975 only or during spring 1976 only? In other words, were the students who were included in the impact analyses systematically different from those excluded from analysis? Second, of the students who were present in a participating classroom during both fall 1975 and spring 1976, were the students with missing pretest and/or posttest scores (in a given analysis) usually members of Title VII classrooms or of non-Title VII classrooms?

B. Method

To determine if the students excluded from the fall to spring growth analyses (because they either entered or left a participating classroom at midyear) and those included in the growth analyses were different, the following procedure[1] was used:

- Pretest and posttest means and standard deviations for four of the five outcome variables (CTBS Reading Total, Reading Vocabulary, and Mathematics Computation Expanded Standard Scores, Attitude Toward School, and Prueba de Lectura total raw score) were computed for students present during both fall and spring and for students present during fall only or spring only.
- Mean differences (between students included in the growth analyses and the students excluded) were calculated. So that they might be compared across grade levels, each mean difference was divided by the standard deviation of the combined set of scores.

Given the students who were present during both fall 1975 and spring 1976, the following method was used to index the association between Title VII/non-Title VII group membership and inclusion/exclusion for the analysis of a particular outcome variable.

- For each of the five outcome measures analyzed for this report, a dummy variable was created which was equal to 1 if the student had a pretest and a posttest score and equal to 0 if the pretest and/or posttest score was missing.
- These dummy variables, one for each of the five outcomes analyzed, were associated with a dummy variable encoding Title VII/non-Title VII group membership (the resulting index being a phi coefficient).

C. Summary of Results

Because the fall-to-spring impact analyses reported in Chapter VI focused on the results for Title VII and non-Title VII Hispanic students, the attrition/accretion and missing data analyses summarized here are limited to the trends shown by Hispanic students only. Inspection of the results indicated the following preliminary conclusions regarding the major questions addressed in this appendix.

---

[1] All analyses were conducted separately for each of the four ethnic group strata (Hispanic, white non-Hispanic, black, and other) within each grade level. However, only the results for Hispanic students were inspected.

Were There Major or Systematic Differences Between Students Present All School Year and Those Present in Fall Only or Spring Only?

In general, the Title VII and non-Title VII students who were excluded from the fall-to-spring growth analyses tended to have slightly lower test scores (on the average) than did the students included in the growth analyses. However, because this trend was usually present for both Title VII and non-Title VII student groups, there was no reason to believe that attrition/accretion effects might be differentially affecting the trends shown on the Title VII and non-Title VII samples.

Given Students Who Were Present During Both Fall 1975 and Spring 1976, Was Title VII/Non-Title VII Group Membership Associated with Missing Pretest or Posttest Data?

Initial inspection of the phi coefficients between presence of pretest/posttest data and Title VII/non-Title VII group membership did not suggest that any substantial or consistent patterns across grade levels was present. Although presence of Prueba de Lectura pretest and posttest scores was highly associated with Title VII group membership (in all grades), this result was undoubtedly due to the fact that very few non-Title VII students were given the particular test and questionnaire materials contained in the Prueba de Lectura.

D. Summary

Because of time limitations, it was not possible to anlayze missing data or attrition/accretion effects in depth. The preliminary analyses that were performed, however, did not suggest that large and consistent differences in the occurrence of missing data and attrition/accretion were present (on the average) between Title VII and non-Title VII Hispanic students sampled by the Impact Study.

APPENDIX VI-B

SUPPORTING TABLES FOR CHAPTER VI, SECTION B[1]

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[1] Each cell in the computer-style crosstabulations shown in Table VI-B-2a through VI-B-41a contains a frequency (count), row percent, column percent, and total percent. Row totals, column totals, and overall totals do not include the number of students with missing data. Numbers of students with missing data (a score of zero) have an "M" beside them (e.g., 3M and 7M in the cells on the bottom of Table VI-B-7a).

TABLE VI-B-1a

Number of Students in the One Site Deleted from the Growth Analyses Because of Delayed Pretesting

Grade	Non-Title VII	Title VII	Total
2	49	52	101
3	52	50	102
4	55	51	106
5	0	0	0
6	0	0	0
TOTAL	156	153	309

TABLE VI-B-2a

Crosstabulation of Student Status During the Study by Treatment Group Membership Based upon All Students Present in the Impact Study Data Base--Grade 2

```
                       TRTMNT
                 COUNT  I
                 ROW PCT INON-TITL TITL VII    ROW
                 COL PCT I VII                 TOTAL
                 TOT PCT I       1 I       2 I
                 --------I---------I---------I
                       1 I    496  I  1056   I  1552
FALL AND SPRING          I   32.0  I  68.0   I  65.5
                         I   59.6  I  68.8   I
                         I   20.9  I  44.6   I
                       -I---------I---------I
                       2 I    245  I   269   I   514
FALL ONLY                I   47.7  I  52.3   I  21.7
                         I   29.4  I  17.5   I
                         I   10.3  I  11.4   I
                       -I---------I---------I
                       3 I     91  I   211   I   302
SPRING ONLY              I   30.1  I  69.9   I  12.8
                         I   10.9  I  13.7   I
                         I    3.8  I   8.9   I
                       -I---------I---------I
                COLUMN        832      1536      2368
                 TOTAL       35.1      64.9     100.0
```

TABLE VI-B-3a

Crosstabulation of Student Status During the Study by Treatment Group Membership Based upon All Students Present in the Impact Study Data Base--Grade 3

```
                        TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I       1 I       2 I
                      --------I--------I--------I
                    1 I   749 I  1370  I  2119
FALL AND SPRING       I  35.3 I  64.7  I  71.9
                      I  68.2 I  74.0  I
                      I  25.4 I  46.5  I
                      -I--------I--------I
                    2 I   242 I   261  I   503
FALL ONLY             I  48.1 I  51.9  I  17.1
                      I  22.0 I  14.1  I
                      I   8.2 I   8.9  I
                      -I--------I--------I
                    3 I   107 I   220  I   327
SPRING ONLY           I  32.7 I  67.3  I  11.1
                      I   9.7 I  11.9  I
                      I   3.6 I   7.5  I
                      -I--------I--------I
               COLUMN    1098     1851     2949
                TOTAL    37.2     62.8    100.0
```

TABLE VI-B-4a

Crosstabulation of Student Status During the Study by Treatment Group Membership Based upon All Students Present in the Impact Study Data Base--Grade 4

```
                  TRTMNT
          COUNT  I
         ROW PCT INON-TITL TITL VII   ROW
         COL PCT I VII               TOTAL
         TOT PCT I     1  I     2  I
         --------I--------I--------I
              1  I   792  I  1288  I  2080
FALL AND SPRING  I  38.1  I  61.9  I  73.5
                 I  73.1  I  73.7  I
                 I  28.0  I  45.5  I
                -I--------I--------I
              2  I   211  I   261  I   472
FALL ONLY        I  44.7  I  55.3  I  16.7
                 I  19.5  I  14.9  I
                 I   7.5  I   9.2  I
                -I--------I--------I
              3  I    80  I   199  I   279
SPRING ONLY      I  28.7  I  71.3  I   9.9
                 I   7.4  I  11.4  I
                 I   2.8  I   7.0  I
                -I--------I--------I
         COLUMN     1083      1748      2831
          TOTAL     38.3      61.7     100.0
```

TABLE VI-B-5a

Crosstabulation of Student Status During the Study by Treatment Group Membership Based upon All Students Present in the Impact Study Data Base--Grade 5

```
                          TRTMNT
                  COUNT  I
                ROW PCT  INON-TITL TITL VII      ROW
                COL PCT  I VII                   TOTAL
                TOT PCT  I       1  I       2  I
                --------I---------I---------I
                      1  I     265  I    1058  I   1323
 FALL AND SPRING        I    20.0  I    80.0  I   73.5
                        I    64.5  I    76.1  I
                        I    14.7  I    58.7  I
                       -I---------I---------I
                      2  I     105  I     133  I    238
 FALL ONLY              I    44.1  I    55.9  I   13.2
                        I    25.5  I     9.6  I
                        I     5.8  I     7.4  I
                       -I---------I---------I
                      3  I      41  I     199  I    240
 SPRING ONLY            I    17.1  I    82.9  I   13.3
                        I    10.0  I    14.3  I
                        I     2.3  I    11.0  I
                       -I---------I---------I
                 COLUMN        411       1390      1801
                  TOTAL       22.8       77.2     100.0
```

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TABLE VI-B-6a

Crosstabulation of Student Status During the Study by Treatment Group Membership Based upon All Students Present in the Impact Study Data Base--Grade 6

```
                          TRTMNT
                COUNT   I
                ROW PCT INON-TITL TITL VII    ROW
                COL PCT I VII                 TOTAL
                TOT PCT I      1  I      2  I
                --------I---------I---------I
                      1 I   158   I   539   I   697
 FALL AND SPRING        I  22.7   I  77.3   I  62.0
                        I  55.4   I  64.2   I
                        I  14.1   I  48.0   I
                       -I---------I---------I
                      2 I   105   I   150   I   255
 FALL ONLY              I  41.2   I  58.8   I  22.7
                        I  36.8   I  17.9   I
                        I   9.3   I  13.3   I
                       -I---------I---------I
                      3 I    22   I   150   I   172
 SPRING ONLY            I  12.8   I  87.2   I  15.3
                        I   7.7   I  17.9   I
                        I   2.0   I  13.3   I
                       -I---------I---------I
                COLUMN      285       839       1124
                 TOTAL     25.4      74.6      100.0
```

TABLE VI-B-7a

Crosstabulation of Ethnic Group Membership by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 2

```
                   TRTMNT
          COUNT   I
        ROW PCT   INON-TITL  TITL VII    ROW
        COL PCT   I VII                  TOTAL
        TOT PCT   I      1  I       2  I
        ---------I---------I---------I
                1 I    321  I     813  I   1134
HISPANIC          I   28.3  I    71.7  I   73.5
                  I   65.1  I    77.5  I
                  I   20.8  I    52.7  I
                 -I---------I---------I
                2 I     92  I      79  I    171
OTHER WHITE       I   53.8  I    46.2  I   11.1
                  I   18.7  I     7.5  I
                  I    6.0  I     5.1  I
                 -I---------I---------I
                3 I      4  I       3  I      7
AM. INDIAN        I   57.1  I    42.9  I    0.5
                  I    0.8  I     0.3  I
                  I    0.3  I     0.2  I
                 -I---------I---------I
                4 I     21  I       3  I     24
ASIAN             I   87.5  I    12.5  I    1.6
                  I    4.3  I     0.3  I
                  I    1.4  I     0.2  I
                 -I---------I---------I
                5 I     50  I      74  I    124
BLACK             I   40.3  I    59.7  I    8.0
                  I   10.1  I     7.1  I
                  I    3.2  I     4.8  I
                 -I---------I---------I
                6 I      5  I      77  I     82
OTHER             I    6.1  I    93.9  I    5.3
                  I    1.0  I     7.3  I
                  I    0.3  I     5.0  I
                 -I---------I---------I
                0 I     3M  I      7M  I    10M
                  I    0.0  I     0.0  I    0.0
                  I    0.0  I     0.0  I
                  I    0.0  I     0.0  I
                 -I---------I---------I
         COLUMN        493       1049      1542
          TOTAL       32.0       68.0     100.0
```

TABLE VI-B-8a

Crosstabulation of Ethnic Group Membership by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
                       TRTMNT
               COUNT  I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I      1 I      2 I
              --------I--------I--------I
                    1 I    520 I   1031 I   1551
HISPANIC              I   33.5 I   66.5 I   73.3
                      I   69.4 I   75.4 I
                      I   24.6 I   48.7 I
                     -I--------I--------I
                    2 I    125 I    132 I    257
OTHER WHITE           I   48.6 I   51.4 I   12.1
                      I   16.7 I    9.6 I
                      I    5.9 I    6.2 I
                     -I--------I--------I
                    3 I      3 I      4 I      7
AM. INDIAN            I   42.9 I   57.1 I    0.3
                      I    0.4 I    0.3 I
                      I    0.1 I    0.2 I
                     -I--------I--------I
                    4 I     21 I      5 I     26
ASIAN                 I   80.8 I   19.2 I    1.2
                      I    2.8 I    0.4 I
                      I    1.0 I    0.2 I
                     -I--------I--------I
                    5 I     61 I     89 I    150
BLACK                 I   40.7 I   59.3 I    7.1
                      I    8.1 I    6.5 I
                      I    2.9 I    4.2 I
                     -I--------I--------I
                    6 I     19 I    107 I    126
OTHER                 I   15.1 I   84.9 I    6.0
                      I    2.5 I    7.8 I
                      I    0.9 I    5.1 I
                     -I--------I--------I
                    0 I     0M I     2M I     2M
                      I    0.0 I    0.0 I    0.0
                      I    0.0 I    0.0 I
                      I    0.0 I    0.0 I
                     -I--------I--------I
               COLUMN      749     1368     2117
                TOTAL     35.4     64.6    100.0
```

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TABLE VI-B-9a

Crosstabulation of Ethnic Group Membership by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4

```
                          TRTMNT
                 COUNT   I
                 ROW PCT INON-TITL TITL VII     ROW
                 COL PCT I VII                  TOTAL
                 TOT PCT I      1  I       2  I
                 --------I---------I---------I
                       1 I    551  I   1025  I   1576
HISPANIC                 I   35.0  I   65.0  I   75.9
                         I   69.7  I   79.6  I
                         I   26.5  I   49.4  I
                        -I---------I---------I
                       2 I    135  I    115  I    250
OTHER WHITE              I   54.0  I   46.0  I   12.0
                         I   17.1  I    8.9  I
                         I    6.5  I    5.5  I
                        -I---------I---------I
                       3 I      1  I      6  I      7
AM. INDIAN               I   14.3  I   85.7  I    0.3
                         I    0.1  I    0.5  I
                         I    0.0  I    0.3  I
                        -I---------I---------I
                       4 I     12  I      6  I     18
ASIAN                    I   66.7  I   33.3  I    0.9
                         I    1.5  I    0.5  I
                         I    0.6  I    0.3  I
                        -I---------I---------I
                       5 I     71  I     85  I    156
BLACK                    I   45.5  I   54.5  I    7.5
                         I    9.0  I    6.6  I
                         I    3.4  I    4.1  I
                        -I---------I---------I
                       6 I     20  I     50  I     70
OTHER                    I   28.6  I   71.4  I    3.4
                         I    2.5  I    3.9  I
                         I    1.0  I    2.4  I
                        -I---------I---------I
                       0 I     2M  I     1M  I     3M
                         I    0.0  I    0.0  I    0.0
                         I    0.0  I    0.0  I
                         I    0.0  I    0.0  I
                        -I---------I---------I
                 COLUMN       790      1287      2077
                  TOTAL      38.0      62.0     100.0
```

TABLE VI-B-10a

Crosstabulation of Ethnic Group Membership by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5

```
                       TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I      1  I      2  I
              --------I---------I---------I
                    1 I    154  I    827  I    981
 HISPANIC             I   15.7  I   84.3  I   74.1
                      I   58.1  I   78.2  I
                      I   11.6  I   62.5  I
                     -I---------I---------I
                    2 I     60  I     73  I    133
 OTHER WHITE          I   45.1  I   54.9  I   10.1
                      I   22.6  I    6.9  I
                      I    4.5  I    5.5  I
                     -I---------I---------I
                    3 I      3  I      5  I      8
 AM. INDIAN           I   37.5  I   62.5  I    0.6
                      I    1.1  I    0.5  I
                      I    0.2  I    0.4  I
                     -I---------I---------I
                    4 I      2  I      2  I      4
 ASIAN                I   50.0  I   50.0  I    0.3
                      I    0.8  I    0.2  I
                      I    0.2  I    0.2  I
                     -I---------I---------I
                    5 I     42  I     51  I     93
 BLACK                I   45.2  I   54.8  I    7.0
                      I   15.8  I    4.8  I
                      I    3.2  I    3.9  I
                     -I---------I---------I
                    6 I      4  I    100  I    104
 OTHER                I    3.8  I   96.2  I    7.9
                      I    1.5  I    9.5  I
                      I    0.3  I    7.6  I
                     -I---------I---------I
               COLUMN      265      1058      1323
                TOTAL     20.0      80.0     100.0
```

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TABLE VI-B-11a

Crosstabulation of Ethnic Group Membership by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6

```
                            TRTMNT
                  COUNT   I
                  ROW PCT INON-TITL TITL VII   ROW
                  COL PCT I VII                TOTAL
                  TOT PCT I     1   I     2  I
                  --------I---------I--------I
                        1 I    76   I   400  I   476
HISPANIC                  I  16.0   I  84.0  I  68.5
                          I  48.1   I  74.5  I
                          I  10.9   I  57.6  I
                         -I---------I--------I
                        2 I    46   I    67  I   113
OTHER WHITE               I  40.7   I  59.3  I  16.3
                          I  29.1   I  12.5  I
                          I   6.6   I   9.6  I
                         -I---------I--------I
                        3 I     3   I     2  I     5
AM. INDIAN                I  60.0   I  40.0  I   0.7
                          I   1.9   I   0.4  I
                          I   0.4   I   0.3  I
                         -I---------I--------I
                        4 I     2   I     0  I     2
ASIAN                     I 100.0   I   0.0  I   0.3
                          I   1.3   I   0.0  I
                          I   0.3   I   0.0  I
                         -I---------I--------I
                        5 I    31   I    20  I    51
BLACK                     I  60.8   I  39.2  I   7.3
                          I  19.6   I   3.7  I
                          I   4.5   I   2.9  I
                         -I---------I--------I
                        6 I     0   I    48  I    48
OTHER                     I   0.0   I 100.0  I   6.9
                          I   0.0   I   8.9  I
                          I   0.0   I   6.9  I
                         -I---------I--------I
                        0 I    0M   I    2M  I    2M
                          I   0.0   I   0.0  I   0.0
                          I   0.0   I   0.0  I
                          I   0.0   I   0.0  I
                         -I---------I--------I
                   COLUMN     158       537      695
                    TOTAL    22.7      77.3    100.0
```

TABLE VI-B-12a

Crosstabulation of Sex of Student by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 2

```
                         TRTMNT
               COUNT   I
               ROW PCT INON-TITL TITL VII    ROW
               COL PCT I VII                 TOTAL
               TOT PCT I      1  I      2  I
               --------I---------I---------I
                     1 I    169  I    223  I    392
        BOYS           I   43.1  I   56.9  I   47.1
                       I   51.2  I   44.3  I
                       I   20.3  I   26.8  I
                      -I---------I---------I
                     2 I    161  I    280  I    441
        GIRLS          I   36.5  I   63.5  I   52.9
                       I   48.8  I   55.7  I
                       I   19.3  I   33.6  I
                      -I---------I---------I
                     0 I    166M I    553M I    719M
                       I    0.0  I    0.0  I    0.0
                       I    0.0  I    0.0  I
                       I    0.0  I    0.0  I
                      -I---------I---------I
               COLUMN       330       503       833
                TOTAL      39.6      60.4     100.0
```

TABLE VI-B-13a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
                          TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I      1 I      2 I
              --------I--------I--------I
                    1 I    270 I    525 I    795
   BOYS               I   34.0 I   66.0 I   46.9
                      I   47.5 I   46.6 I
                      I   15.9 I   31.0 I
                     -I--------I--------I
                    2 I    299 I    602 I    901
   GIRLS              I   33.2 I   66.8 I   53.1
                      I   52.5 I   53.4 I
                      I   17.6 I   35.5 I
                     -I--------I--------I
                    0 I    180M I    243M I    423M
                      I    0.0 I    0.0 I    0.0
                      I    0.0 I    0.0 I
                      I    0.0 I    0.0 I
                     -I--------I--------I
              COLUMN       569     1127      1696
               TOTAL      33.5     66.5     100.0
```

TABLE VI-B-14a

Crosstabulation of Sex of Student by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 4

```
                        TRTMNT
                COUNT   I
                ROW PCT INON-TITL TITL VII    ROW
                COL PCT I VII                 TOTAL
                TOT PCT I     1  I     2  I
                --------I--------I--------I
                      1 I   304  I   555  I    859
BOYS                    I  35.4  I  64.6  I   50.0
                        I  52.5  I  48.7  I
                        I  17.7  I  32.3  I
                       -I--------I--------I
                      2 I   275  I   584  I    859
GIRLS                   I  32.0  I  68.0  I   50.0
                        I  47.5  I  51.3  I
                        I  16.0  I  34.0  I
                       -I--------I--------I
                      0 I   213M I   149M I    362M
                        I   0.0  I   0.0  I    0.0
                        I   0.0  I   0.0  I
                        I   0.0  I   0.0  I
                       -I--------I--------I
                COLUMN      579     1139      1718
                 TOTAL     33.7     66.3     100.0
```

TABLE VI-B-15a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5

```
                        TRTMNT
               COUNT   I
               ROW PCT INON-TITL TITL VII    ROW
               COL PCT I VII                 TOTAL
               TOT PCT I      1  I      2  I
               --------I---------I---------I
                     1 I   108   I   447   I   555
  BOYS                 I  19.5   I  80.5   I  48.5
                       I  50.2   I  48.1   I
                       I   9.4   I  39.1   I
                      -I---------I---------I
                     2 I   107   I   482   I   589
  GIRLS                I  18.2   I  81.8   I  51.5
                       I  49.8   I  51.9   I
                       I   9.4   I  42.1   I
                      -I---------I---------I
                     0 I    50M  I   129M  I   179M
                       I   0.0   I   0.0   I   0.0
                       I   0.0   I   0.0   I
                       I   0.0   I   0.0   I
                      -I---------I---------I
               COLUMN      215       929       1144
                TOTAL     18.8      81.2      100.0
```

TABLE VI-B-16a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6

```
                     TRTMNT
          COUNT   I
          ROW PCT INON-TITL TITL VII   ROW
          COL PCT I VII                TOTAL
          TOT PCT I     1 I     2 I
          --------I-------I-------I
                1 I    54 I   205 I    259
BOYS              I  20.8 I  79.2 I   44.0
                  I  41.2 I  44.8 I
                  I   9.2 I  34.8 I
                 -I-------I-------I
                2 I    77 I   253 I    330
GIRLS             I  23.3 I  76.7 I   56.0
                  I  58.8 I  55.2 I
                  I  13.1 I  43.0 I
                 -I-------I-------I
                0 I   27M I   81M I   108M
                  I   0.0 I   0.0 I    0.0
                  I   0.0 I   0.0 I
                  I   0.0 I   0.0 I
                 -I-------I-------I
          COLUMN      131     458      589
           TOTAL     22.2    77.8    100.0
```

TABLE VI-B-17a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 2

```
                 TRTMNT
         COUNT  I
       ROW PCT  INON-TITL TITL VII    ROW
       COL PCT  I VII                 TOTAL
       TOT PCT  I     1   I     2   I
       ---------I---------I---------I
             1  I   443   I   319   I   762
  MONO ENGLISH  I  58.1   I  41.9   I  49.1
                I  89.3   I  30.2   I
                I  28.5   I  20.6   I
               -I---------I---------I
             2  I    31   I   320   I   351
   BIL ENG DOM  I   8.8   I  91.2   I  22.6
                I   6.3   I  30.3   I
                I   2.0   I  20.6   I
               -I---------I---------I
             3  I     2   I    79   I    81
   BIL SPN DOM  I   2.5   I  97.5   I   5.2
                I   0.4   I   7.5   I
                I   0.1   I   5.1   I
               -I---------I---------I
             4  I    20   I   338   I   358
  MONO SPANISH  I   5.6   I  94.4   I  23.1
                I   4.0   I  32.0   I
                I   1.3   I  21.8   I
               -I---------I---------I
        COLUMN      496      1056      1552
         TOTAL     32.0      68.0     100.0
```

TABLE VI-B-18a

Crosstabulation of Judged Language Dominance by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
                       TRTMNT
             COUNT    I
             ROW PCT  INON-TITL TITL VII     ROW
             COL PCT  I VII                  TOTAL
             TOT PCT  I      1  I      2  I
             --------I--------I--------I
                    1 I   670  I   562  I   1232
       MONO ENGLISH I  54.4  I  45.6  I   58.1
                      I  69.5  I  41.0  I
                      I  31.6  I  26.5  I
                    -I--------I--------I
                    2 I    60  I   493  I    553
       BIL ENG DOM  I  10.8  I  89.2  I   26.1
                      I   8.0  I  36.0  I
                      I   2.8  I  23.3  I
                    -I--------I--------I
                    3 I     1  I    50  I     51
       BIL SPN DOM  I   2.0  I  98.0  I    2.4
                      I   0.1  I   3.6  I
                      I   0.0  I   2.4  I
                    -I--------I--------I
                    4 I    18  I   265  I    283
       MONO SPANISH I   6.4  I  93.6  I   13.4
                      I   2.4  I  19.3  I
                      I   0.8  I  12.5  I
                    -I--------I--------I
             COLUMN       749      1370       2119
             TOTAL       35.3      64.7      100.0
```

TABLE VI-B-19a

Crosstabulation of Judged Language Dominance by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4

```
                 TRTMNT
         COUNT   I
         ROW PCT INON-TITL  TITL VII    ROW
         COL PCT I VII                  TOTAL
         TOT PCT I      1  I       2  I
         --------I---------I---------I
               1 I   695   I   462   I  1157
    MONO ENGLISH I  60.1   I  39.9   I  55.6
                 I  87.8   I  35.9   I
                 I  33.4   I  22.2   I
                -I---------I---------I
               2 I    64   I   575   I   639
     BIL ENG DOM I  10.0   I  90.0   I  30.7
                 I   8.1   I  44.6   I
                 I   3.1   I  27.6   I
                -I---------I---------I
               3 I     4   I    69   I    73
     BIL SPN DOM I   5.5   I  94.5   I   3.5
                 I   0.5   I   5.4   I
                 I   0.2   I   3.3   I
                -I---------I---------I
               4 I    29   I   182   I   211
    MONO SPANISH I  13.7   I  86.3   I  10.1
                 I   3.7   I  14.1   I
                 I   1.4   I   8.7   I
                -I---------I---------I
          COLUMN      792       1288      2080
           TOTAL     38.1       61.9     100.0
```

TABLE VI-B-20a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon All Students Present
During Both Fall 975 and Spring 1976--Grade 5

```
                     TRTMNT
           COUNT   I
           ROW PCT INON-TITL TITL VII    ROW
           COL PCT I VII                 TOTAL
           TOT PCT I       1  I       2  I
           --------I---------I---------I
                 1 I     232 I     452 I     684
   MONO ENGLISH    I    33.9 I    66.1 I    51.7
                   I    87.5 I    42.7 I
                   I    17.5 I    34.2 I
                  -I---------I---------I
                 2 I      19 I     369 I     388
   BIL ENG DOM     I     4.9 I    95.1 I    29.3
                   I     7.2 I    34.9 I
                   I     1.4 I    27.9 I
                  -I---------I---------I
                 3 I       1 I      76 I      77
   BIL SPN DOM     I     1.3 I    98.7 I     5.8
                   I     0.4 I     7.2 I
                   I     0.1 I     5.7 I
                  -I---------I---------I
                 4 I      13 I     161 I     174
   MONO SPANISH    I     7.5 I    92.5 I    13.2
                   I     4.9 I    15.2 I
                   I     1.0 I    12.2 I
                  -I---------I---------I
           COLUMN        265      1058      1323
           TOTAL        20.0      80.0     100.0
```

TABLE VI-B-21a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 6

```
                 TRTMNT
        COUNT   I
        ROW PCT INON-TITL TITL VII   ROW
        COL PCT I VII                TOTAL
        TOT PCT I      1 I      2 I
        --------I--------I--------I
               1 I    125 I    148 I   273
   MONO ENGLISH I   45.8 I   54.2 I  39.2
                I   79.1 I   27.5 I
                I   17.9 I   21.2 I
               -I--------I--------I
               2 I     31 I    269 I   300
    BIL ENG DOM I   10.3 I   89.7 I  43.0
                I   19.6 I   49.9 I
                I    4.4 I   38.6 I
               -I--------I--------I
               3 I      0 I     35 I    35
    BIL SPN DOM I    0.0 I  100.0 I   5.0
                I    0.0 I    6.5 I
                I    0.0 I    5.0 I
               -I--------I--------I
               4 I      2 I     87 I    89
   MONO SPANISH I    2.2 I   97.8 I  12.8
                I    1.3 I   16.1 I
                I    0.3 I   12.5 I
               -I--------I--------I
        COLUMN       158      539      697
        TOTAL       22.7     77.3    100.0
```

TABLE VI-B-22a

Crosstabulation of Student Age by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 2

```
          TRTMNT
COUNT    I
ROW PCT  INON-TITL TITL VII    ROW
COL PCT  I VII                 TOTAL
TOT PCT  I      1  I      2  I
---------I---------I---------I
      6  I     15  I     33  I     48
         I   31.3  I   68.8  I    3.2
         I    3.2  I    3.2  I
         I    1.0  I    2.2  I
        -I---------I---------I
      7  I    350  I    691  I   1041
         I   33.6  I   66.4  I   69.2
         I   74.3  I   66.8  I
         I   23.3  I   45.9  I
        -I---------I---------I
      8  I     92  I    268  I    360
         I   25.6  I   74.4  I   23.9
         I   19.5  I   25.9  I
         I    6.1  I   17.8  I
        -I---------I---------I
      9  I      9  I     39  I     48
         I   18.8  I   81.3  I    3.2
         I    1.9  I    3.8  I
         I    0.6  I    2.6  I
        -I---------I---------I
     10  I      5  I      3  I      8
         I   62.5  I   37.5  I    0.5
         I    1.1  I    0.3  I
         I    0.3  I    0.2  I
        -I---------I---------I
      0  I    25M  I    22M  I    47M
         I    0.0  I    0.0  I    0.0
         I    0.0  I    0.0  I
         I    0.0  I    0.0  I
        -I---------I---------I
  COLUMN      471      1034       1505
   TOTAL     31.3      68.7      100.0
```

TABLE VI-B-23a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
            TRTMNT
 COUNT    I
ROW PCT   INON-TITL TITL VII    ROW
COL PCT   I VII                 TOTAL
TOT PCT   I       1 I       2 I
--------I--------I--------I
       7  I      16 I      30 I      46
          I    34.8 I    65.2 I     2.2
          I     2.2 I     2.2 I
          I     0.8 I     1.4 I
        -I--------I--------I
       8  I     463 I     873 I    1336
          I    34.7 I    65.3 I    63.5
          I    62.5 I    64.0 I
          I    22.0 I    41.5 I
        -I--------I--------I
       9  I     210 I     404 I     614
          I    34.2 I    65.8 I    29.2
          I    28.3 I    29.6 I
          I    10.0 I    19.2 I
        -I--------I--------I
      10  I      52 I      57 I     109
          I    47.7 I    52.3 I     5.2
          I     7.0 I     4.2 I
          I     2.5 I     2.7 I
        -I--------I--------I
       0  I      8M I      6M I     14M
          I     0.0 I     0.0 I     0.0
          I     0.0 I     0.0 I
          I     0.0 I     0.0 I
        -I--------I--------I
   COLUMN       741      1364      2105
    TOTAL      35.2      64.8     100.0
```

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TABLE VI-B-24a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4

```
           TRTMNT
 COUNT    I
ROW PCT  INON-TITL TITL VII    ROW
COL PCT  I VII                 TOTAL
TOT PCT  I      1  I      2  I
---------I---------I---------I
      8  I     19  I     38  I     57
         I   33.3  I   66.7  I    2.8
         I    2.4  I    3.0  I
         I    0.9  I    1.8  I
        -I---------I---------I
      9  I    414  I    789  I   1203
         I   34.4  I   65.6  I   58.4
         I   53.1  I   61.5  I
         I   20.1  I   38.3  I
        -I---------I---------I
     10  I    346  I    455  I    801
         I   43.2  I   56.8  I   38.9
         I   44.4  I   35.5  I
         I   16.8  I   22.1  I
        -I---------I---------I
      0  I    13M  I     6M  I    19M
         I    0.0  I    0.0  I    0.0
         I    0.0  I    0.0  I
         I    0.0  I    0.0  I
        -I---------I---------I
COLUMN        779      1282      2061
 TOTAL       37.8      62.2     100.0
```

TABLE VI-B-25a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5

```
            TRTMNT
 COUNT    I
ROW PCT  INON-TITL TITL VII    ROW
COL PCT  I VII                 TOTAL
TOT PCT  I       1  I      2  I
---------I----------I---------I
       9 I       1  I     52  I     53
         I    1.9   I   98.1  I    4.0
         I    0.4   I    4.9  I
         I    0.1   I    3.9  I
        -I----------I---------I
      10 I     264  I   1004  I   1268
         I   20.8   I   79.2  I   96.0
         I   99.6   I   95.1  I
         I   20.0   I   76.0  I
        -I----------I---------I
       0 I      0M  I     2M  I     2M
         I    0.0   I    0.0  I    0.0
         I    0.0   I    0.0  I
         I    0.0   I    0.0  I
        -I----------I---------I
COLUMN         265      1056      1321
 TOTAL        20.1      79.9     100.0
```

TABLE VI-B-26a

Crosstabulation of Student Age by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 6

```
              TRTMNT
  COUNT     I
  ROW PCT   INON-TITL TITL VII     ROW
  COL PCT   I VII                  TOTAL
  TOT PCT   I       1 I       2 I
  ----------I---------I---------I
          5 I       0 I       1 I       1
            I     0.0 I   100.0 I     0.1
            I     0.0 I     0.2 I
            I     0.0 I     0.1 I
           -I---------I---------I
          9 I       0 I       1 I       1
            I     0.0 I   100.0 I     0.1
            I     0.0 I     0.2 I
            I     0.0 I     0.1 I
           -I---------I---------I
         10 I     158 I     534 I     692
            I    22.8 I    77.2 I    99.7
            I   100.0 I    99.6 I
            I    22.8 I    76.9 I
           -I---------I---------I
          0 I      0M I      3M I      3M
            I     0.0 I     0.0 I     0.0
            I     0.0 I     0.0 I
            I     0.0 I     0.0 I
           -I---------I---------I
  COLUMN          158       536       694
   TOTAL         22.8      77.2     100.0
```

TABLE VI-B-27a

Crosstabulation of Years in Bilingual Education Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 2

```
              TRTMNT
 COUNT      I
 ROW PCT    INON-TITL  TITL VII    ROW
 COL PCT    I VII                  TOTAL
 TOT PCT    I      1  I      2  I
 ---------I---------I---------I
         1  I    105  I    292  I    397
            I   26.4  I   73.6  I   33.7
            I   72.4  I   28.2  I
            I    8.9  I   24.8  I
           -I---------I---------I
         2  I     40  I    414  I    454
            I    8.8  I   91.2  I   38.5
            I   27.6  I   40.0  I
            I    3.4  I   35.1  I
           -I---------I---------I
         3  I      0  I    302  I    302
            I    0.0  I  100.0  I   25.6
            I    0.0  I   29.2  I
            I    0.0  I   25.6  I
           -I---------I---------I
         4  I      0  I     26  I     26
            I    0.0  I  100.0  I    2.2
            I    0.0  I    2.5  I
            I    0.0  I    2.2  I
           -I---------I---------I
         0  I   351M  I    22M  I   373M
            I    0.0  I    0.0  I    0.0
            I    0.0  I    0.0  I
            I    0.0  I    0.0  I
           -I---------I---------I
 COLUMN          145      1034      1179
  TOTAL         12.3      87.7     100.0
```

TABLE VI-B-28a

Crosstabulation of Years in Bilingual Education Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
              TRTMNT
     COUNT   I
    ROW PCT  INON-TITL TITL VII     ROW
    COL PCT  I VII                  TOTAL
    TOT PCT  I     1  I       2  I
    ---------I--------I--------I
          1  I   141  I   288  I    429
             I  32.9  I  67.1  I   28.6
             I  77.5  I  21.8  I
             I   9.4  I  19.2  I
            -I--------I--------I
          2  I    14  I   388  I    402
             I   3.5  I  96.5  I   26.8
             I   7.7  I  29.4  I
             I   0.9  I  25.8  I
            -I--------I--------I
          3  I    27  I   479  I    506
             I   5.3  I  94.7  I   33.7
             I  14.8  I  36.3  I
             I   1.8  I  31.9  I
            -I--------I--------I
          4  I     0  I   160  I    160
             I   0.0  I 100.0  I   10.7
             I   0.0  I  12.1  I
             I   0.0  I  10.7  I
            -I--------I--------I
          5  I     0  I     4  I      4
             I   0.0  I 100.0  I    0.3
             I   0.0  I   0.3  I
             I   0.0  I   0.3  I
            -I--------I--------I
          0  I  567M  I    51M I    618M
             I   0.0  I   0.0  I    0.0
             I   0.0  I   0.0  I
             I   0.0  I   0.0  I
            -I--------I--------I
    COLUMN       182     1319      1501
     TOTAL      12.1     87.9     100.0
```

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TABLE VI-B-29a

Crosstabulation of Years in Bilingual Education Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4

```
              TRTMNT
 COUNT      I
ROW PCT     INON-TITL TITL VII    ROW
COL PCT     I VII                 TOTAL
TOT PCT     I     1   I     2   I
 -----------I---------I---------I
        1   I    205  I    273  I    478
            I   42.9  I   57.1  I   33.0
            I   89.9  I   22.3  I
            I   14.1  I   18.8  I
           -I---------I---------I
        2   I      7  I    183  I    190
            I    3.7  I   96.3  I   13.1
            I    3.1  I   15.0  I
            I    0.5  I   12.6  I
           -I---------I---------I
        3   I     14  I    347  I    361
            I    3.9  I   96.1  I   24.9
            I    6.1  I   28.4  I
            I    1.0  I   23.9  I
           -I---------I---------I
        4   I      2  I    347  I    349
            I    0.6  I   99.4  I   24.1
            I    0.9  I   28.4  I
            I    0.1  I   23.9  I
           -I---------I---------I
        5   I      0  I     69  I     69
            I    0.0  I  100.0  I    4.8
            I    0.0  I    5.6  I
            I    0.0  I    4.8  I
           -I---------I---------I
        6   I      0  I      3  I      3
            I    0.0  I  100.0  I    0.2
            I    0.0  I    0.2  I
            I    0.0  I    0.2  I
           -I---------I---------I
        0   I   564M  I     66M I    630M
            I    0.0  I    0.0  I    0.0
            I    0.0  I    0.0  I
            I    0.0  I    0.0  I
           -I---------I---------I
 COLUMN          228      1222      1450
  TOTAL         15.7      84.3     100.0
```

TABLE VI-B-30a

Crosstabulation of Years in Bilingual Education Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 5

```
                TRTMNT
 COUNT   I
ROW PCT  INON-TITL TITL VII    ROW
COL PCT  I VII                 TOTAL
TOT PCT  I       1  I      2  I
--------I--------I--------I
       1  I     66  I    196  I    262
          I   25.2  I   74.8  I   24.3
          I   36.8  I   19.5  I
          I    6.1  I   18.1  I
         -I--------I--------I
       2  I      3  I    211  I    214
          I    1.4  I   98.6  I   19.8
          I    3.9  I   21.0  I
          I    0.3  I   19.5  I
         -I--------I--------I
       3  I      3  I    190  I    193
          I    1.6  I   98.4  I   17.9
          I    3.9  I   18.9  I
          I    0.3  I   17.6  I
         -I--------I--------I
       4  I      4  I    221  I    225
          I    1.8  I   98.2  I   20.8
          I    5.3  I   22.0  I
          I    0.4  I   20.5  I
         -I--------I--------I
       5  I      0  I    185  I    185
          I    0.0  I  100.0  I   17.1
          I    0.0  I   18.4  I
          I    0.0  I   17.1  I
         -I--------I--------I
       6  I      0  I      1  I      1
          I    0.0  I  100.0  I    0.1
          I    0.0  I    0.1  I
          I    0.0  I    0.1  I
         -I--------I--------I
       0  I   189M  I     54M I    243M
          I    0.0  I    0.0  I    0.0
          I    0.0  I    0.0  I
          I    0.0  I    0.0  I
         -I--------I--------I
 COLUMN         76      1004      1080
  TOTAL        7.0      93.0     100.0
```

TABLE VI-B-31a

Crosstabulation of Years in Bilingual Education Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6

```
             TRTMNT
 COUNT     I
ROW PCT    INON-TITL TITL VII     ROW
COL PCT    I VII                  TOTAL
TOT PCT    I       1 I       2 I
 --------I---------I---------I
        1  I      30 I      97 I    127
           I    23.6 I    76.4 I   28.8
           I   100.0 I    23.6 I
           I     6.8 I    22.0 I
         -I---------I---------I
        2  I       0 I      72 I     72
           I     0.0 I   100.0 I   16.3
           I     0.0 I    17.5 I
           I     0.0 I    16.3 I
         -I---------I---------I
        3  I       0 I      77 I     77
           I     0.0 I   100.0 I   17.5
           I     0.0 I    18.7 I
           I     0.0 I    17.5 I
         -I---------I---------I
        4  I       0 I      85 I     85
           I     0.0 I   100.0 I   19.3
           I     0.0 I    20.7 I
           I     0.0 I    19.3 I
         -I---------I---------I
        5  I       0 I      41 I     41
           I     0.0 I   100.0 I    9.3
           I     0.0 I    10.0 I
           I     0.0 I     9.3 I
         -I---------I---------I
        6  I       0 I      39 I     39
           I     0.0 I   100.0 I    8.8
           I     0.0 I     9.5 I
           I     0.0 I     8.8 I
         -I---------I---------I
        0  I    128M I    128M I   256M
           I     0.0 I     0.0 I    0.0
           I     0.0 I     0.0 I
           I     0.0 I     0.0 I
         -I---------I---------I
 COLUMN         30        411       441
  TOTAL        6.8       93.2     100.0
```

TABLE VI-B-32a

Crosstabulation of Basis for Presence in Bilingual Project Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 2

```
                       TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I     1   I     2   I
              --------I---------I---------I
                    1 I         I    57   I    62
SPANISH SURNAME       I  N.A.a  I  91.9   I   5.2
                      I         I   5.6   I
                      I         I   4.8   I
                     -I---------I---------I
                    2 I         I   288   I   328
NEED FOR ENGL IN      I  N.A.   I  87.8   I  27.7
                      I         I  28.2   I
                      I         I  24.3   I
                     -I---------I---------I
                    3 I         I   391   I   401
PARENT REQUEST        I  N.A.   I  97.5   I  33.8
                      I         I  38.3   I
                      I         I  33.0   I
                     -I---------I---------I
                    4 I         I    73   I    86
BILINGUALISM          I  N.A.   I  84.9   I   7.3
                      I         I   7.1   I
                      I         I   6.2   I
                     -I---------I---------I
                    5 I         I   213   I   308
OTHER                 I  N.A.   I  69.2   I  26.0
                      I         I  20.8   I
                      I         I  18.0   I
                     -I---------I---------I
                    0 I         I   34M   I  367M
                      I  N.A.   I   0.0   I   0.0
                      I         I   0.0   I
                      I         I   0.0   I
                     -I---------I---------I
               COLUMN               1022      1185
                TOTAL               86.2     100.0
```

[a] Not applicable

TABLE VI-B-33a

Crosstabulation of Basis for Presence in Bilingual Project Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3

```
                       TRTMNT
              COUNT  I
            ROW PCT  INON-TITL TITL VII    ROW
            COL PCT  I VII                 TOTAL
            TOT PCT  I       1 I       2 I
            ---------I---------I---------I
                  1  I         I      68 I     76
SPANISH SURNAME      I  N.A.   I    89.5 I    4.3
                     I         I     5.2 I
                     I         I     3.8 I
                    -I---------I---------I
                  2  I         I     345 I    411
NEED FOR ENGL IN     I  N.A.   I    83.9 I   23.2
                     I         I    26.1 I
                     I         I    19.4 I
                    -I---------I---------I
                  3  I         I     578 I    579
PARENT REQUEST       I  N.A.   I    99.8 I   32.6
                     I         I    43.8 I
                     I         I    32.6 I
                    -I---------I---------I
                  4  I         I     117 I    120
BILINGUALISM         I  N.A.   I    97.5 I    6.8
                     I         I     8.9 I
                     I         I     6.6 I
                    -I---------I---------I
                  5  I         I     212 I    588
OTHER                I  N.A.   I    36.1 I   33.1
                     I         I    16.1 I
                     I         I    12.0 I
                    -I---------I---------I
                  0  I         I     50M I   345M
                     I  N.A.   I     0.0 I    0.0
                     I         I     0.0 I
                     I         I     0.0 I
                    -I---------I---------I
             COLUMN                 1320     1774
              TOTAL                 74.4    100.0
```

TABLE VI-B-34a

Crosstabulation of Basis for Presence in Bilingual Project Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 4

```
                    TRTMNT
            COUNT  I
          ROW PCT  INON-TITL TITL VII    ROW
          COL PCT  I VII                 TOTAL
          TOT PCT  I       1  I       2  I
         ----------I----------I----------I
                 1 I          I     94   I    97
SPANISH SURNAME    I   N.A.   I   96.9   I   6.0
                   I          I    7.5   I
                   I          I    5.8   I
                  -I----------I----------I
                 2 I          I    273   I   297
NEED FOR ENGL IN   I   N.A.   I   91.9   I  18.3
                   I          I   21.7   I
                   I          I   16.9   I
                  -I----------I----------I
                 3 I          I    428   I   429
PARENT REQUEST     I   N.A.   I   99.8   I  26.5
                   I          I   34.0   I
                   I          I   26.4   I
                  -I----------I----------I
                 4 I          I    306   I   326
BILINGUALISM       I   N.A.   I   93.9   I  20.1
                   I          I   24.3   I
                   I          I   18.9   I
                  -I----------I----------I
                 5 I          I    158   I   471
OTHER              I   N.A.   I   33.5   I  29.1
                   I          I   12.5   I
                   I          I    9.8   I
                  -I----------I----------I
                 0 I          I    29M   I   460M
                   I   N.A.   I    0.0   I   0.0
                   I          I    0.0   I
                   I          I    0.0   I
                  -I----------I----------I
           COLUMN                  1259     1620
            TOTAL                  77.7    100.0
```

TABLE VI-B-35a

Crosstabulation of Basis for Presence in Bilingual Project Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 5

```
                       TRTMNT
              COUNT   I
             ROW PCT  INON-TITL TITL VII    ROW
             COL PCT  I VII                TOTAL
             TOT PCT  I       1  I       2  I
             --------I---------I---------I
                    1 I         I      48  I     67
SPANISH SURNAME       I   N.A.  I    71.6  I    5.8
                      I         I     4.7  I
                      I         I     4.1  I
                    -I---------I---------I
                    2 I         I     186  I    228
NEED FOR ENGL IN      I   N.A.  I    81.6  I   19.7
                      I         I    18.0  I
                      I         I    16.0  I
                    -I---------I---------I
                    3 I         I     391  I    391
PARENT REQUEST        I   N.A.  I   100.0  I   33.7
                      I         I    37.9  I
                      I         I    33.7  I
                    -I---------I---------I
                    4 I         I     179  I    190
BILINGUALISM          I   N.A.  I    94.2  I   16.4
                      I         I    17.4  I
                      I         I    15.4  I
                    -I---------I---------I
                    5 I         I     227  I    283
OTHER                 I   N.A.  I    80.2  I   24.4
                      I         I    22.0  I
                      I         I    19.6  I
                    -I---------I---------I
                    0 I         I     27M  I   164M
                      I   N.A.  I     0.0  I    0.0
                      I         I     0.0  I
                      I         I     0.0  I
                    -I---------I---------I
              COLUMN                 1031       1159
               TOTAL                 89.0      100.0
```

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TABLE VI-B-36a

Crosstabulation of Basis for Presence in Bilingual Project Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6

```
               TRTMNT
       COUNT  I
     ROW PCT  INON-TITL TITL VII    ROW
     COL PCT  I VII                 TOTAL
     TOT PCT  I      1  I      2  I
     ---------I---------I---------I
           1  I         I     38  I     38
SPANISH SURNAME I  N.A. I  100.0  I    6.5
              I         I    7.6  I
              I         I    6.5  I
             -I---------I---------I
           2  I         I    123  I    134
NEED FOR ENGL IN I N.A. I   91.8  I   23.1
              I         I   24.7  I
              I         I   21.2  I
             -I---------I---------I
           3  I         I    214  I    215
PARENT REQUEST I   N.A. I   99.5  I   37.0
              I         I   43.0  I
              I         I   36.8  I
             -I---------I---------I
           4  I         I     88  I     88
BILINGUALISM  I   N.A.  I  100.0  I   15.1
              I         I   17.7  I
              I         I   15.1  I
             -I---------I---------I
           5  I         I     35  I    106
OTHER         I   N.A.  I   33.0  I   18.2
              I         I    7.0  I
              I         I    6.0  I
             -I---------I---------I
           0  I         I    41M  I   116M
              I   N.A.  I    0.0  I    0.0
              I         I    0.0  I
              I         I    0.0  I
             -I---------I---------I
      COLUMN                 498        581
       TOTAL                85.7      100.0
```

TABLE VI-B-37a

Crosstabulation of First School Year in Continental United States
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 2

```
                       TRTMNT
                COUNT  I
              ROW PCT  INON-TITL  TITL VII    ROW
              COL PCT  I VII                  TOTAL
              TOT PCT  I     1   I     2   I
              ---------I---------I---------I
                    1  I   478   I   940   I  1418
NO                     I  33.7   I  66.3   I  97.7
                       I  98.2   I  97.5   I
                       I  32.9   I  64.8   I
                      -I---------I---------I
                    2  I     9   I    24   I    33
YES                    I  27.3   I  72.7   I   2.3
                       I   1.8   I   2.5   I
                       I   0.6   I   1.7   I
                      -I---------I---------I
                    0  I     9M  I    92M  I   101M
                       I   0.0   I   0.0   I   0.0
                       I   0.0   I   0.0   I
                       I   0.0   I   0.0   I
                      -I---------I---------I
               COLUMN      487       964      1451
                TOTAL     33.6      66.4     100.0
```

TABLE VI-B-38a

Crosstabulation of First School Year in Continental United States
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 3

```
                    TRTMNT
            COUNT  I
          ROW PCT  INON-TITLE TITLE VII    ROW
          COL PCT  I VII                   TOTAL
          TOT PCT  I     1  I      2  I
          ---------I--------I--------I
                1  I   667  I  1132  I   1799
NO                 I  37.1  I  62.9  I   97.6
                   I  98.5  I  97.1  I
                   I  36.2  I  61.4  I
                 -I--------I--------I
                2  I    10  I    34  I     44
YES                I  22.7  I  77.3  I    2.4
                   I   1.5  I   2.9  I
                   I   0.5  I   1.8  I
                 -I--------I--------I
                0  I   72M  I  204M  I   276M
                   I   0.0  I   0.0  I    0.0
                   I   0.0  I   0.0  I
                   I   0.0  I   0.0  I
                 -I--------I--------I
          COLUMN       677     1166      1843
           TOTAL      36.7     63.3     100.0
```

TABLE VI-B-39a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4

```
                        TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII   ROW
              COL PCT I VII                TOTAL
              TOT PCT I     1  I     2  I
              --------I--------I--------I
                   1  I   750  I  1136  I  1886
NO                    I  39.8  I  60.2  I  97.8
                      I  98.6  I  97.3  I
                      I  38.9  I  58.9  I
                     -I--------I--------I
                   2  I    11  I    32  I    43
YES                   I  25.6  I  74.4  I   2.2
                      I   1.4  I   2.7  I
                      I   0.6  I   1.7  I
                     -I--------I--------I
                   0  I   31M  I  120M  I  151M
                      I   0.0  I   0.0  I   0.0
                      I   0.0  I   0.0  I
                      I   0.0  I   0.0  I
                     -I--------I--------I
              COLUMN      761     1168     1929
               TOTAL     39.5     60.5    100.0
```

TABLE VI-B-40a

Crosstabulation of First School Year in Continental United States
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 5

```
                          TRTMNT
               COUNT    I
               ROW PCT  INON-TITL TITL VII    ROW
               COL PCT  I VII                 TOTAL
               TOT PCT  I     1   I     2   I
               --------I--------I--------I
                      1 I   249  I   865  I  1114
     NO                 I  22.4  I  77.6  I  98.1
                        I  99.6  I  97.6  I
                        I  21.9  I  76.1  I
                       -I--------I--------I
                      2 I     1  I    21  I    22
     YES                I   4.5  I  95.5  I   1.9
                        I   0.4  I   2.4  I
                        I   0.1  I   1.8  I
                       -I--------I--------I
                      0 I   15M  I  172M  I   187M
                        I   0.0  I   0.0  I   0.0
                        I   0.0  I   0.0  I
                        I   0.0  I   0.0  I
                       -I--------I--------I
               COLUMN       250      886      1136
                TOTAL       22.0     78.0     100.0
```

TABLE VI-B-41a

Crosstabulation of First School Year in Continental United States
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 6

```
                        TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I       1 I       2 I
              --------I---------I---------I
                    1 I    110  I    472  I    582
NO                    I   18.9  I   81.1  I   96.5
                      I  100.0  I   95.7  I
                      I   18.2  I   78.3  I
                     -I---------I---------I
                    2 I      0  I     21  I     21
YES                   I    0.0  I  100.0  I    3.5
                      I    0.0  I    4.3  I
                      I    0.0  I    3.5  I
                     -I---------I---------I
                    0 I    48M  I    46M  I    94M
                      I    0.0  I    0.0  I    0.0
                      I    0.0  I    0.0  I
                      I    0.0  I    0.0  I
                     -I---------I---------I
              COLUMN       110       493       603
               TOTAL      18.2      81.8     100.0
```

APPENDIX VI-D

SUPPORTING TABLES FOR CHAPTER VI, SECTION D

TABLE VI-D-1a

NUMBER OF NON-TITLE VII STUDENTS PRESENT IN THE IMPACT STUDY DATA BASE

Judged Language Dominance	Grade	Ethnic Group								Totals		Subtotals by Judged Language Dominance
		Hispanic		White Non-Hispanic		Black		Other[a]				
		F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	
English Monolingual	2	274	134	91	51	50	64	28	30	443	279	722
	3	441	109	125	77	61	50	43	52	670	288	958
	4	470	128	133	65	71	50	21	20	695	263	958
	5	121	27	60	49	42	12	9	15	232	103	335
	6	43	40	46	34	31	13	5	9	125	96	221
English-Dominant Bilingual	2	25	8	1	0	0	0	5	3	31	11	42
	3	60	20	0	0	0	0	0	2	60	22	82
	4	53	6	2	0	0	0	9	4	64	10	74
	5	19	24	0	1	0	1	0	6	19	32	51
	6	31	24	0	0	0	0	0	2	31	26	57
Spanish-Dominant Bilingual	2	2	12	0	0	0	0	0	1	2	13	15
	3	1	1	0	0	0	0	0	0	1	1	2
	4	4	4	0	0	0	0	0	0	4	4	8
	5	1	0	0	0	0	0	0	0	1	0	1
	6	0	0	0	0	0	0	0	0	0	0	0
Spanish Monolingual	2	20	30	0	0	0	0	0	3	20	33	53
	3	18	30	0	0	0	0	0	8	18	38	56
	4	24	10	0	0	0	0	5	4	29	14	43
	5	13	7	0	0	0	0	0	4	13	11	24
	6	2	4	0	0	0	0	0	1	2	5	7
Subtotals by Grade	2	321	184	92	51	50	64	33	37	496	336	832
	3	520	160	125	77	61	50	43	62	749	349	1098
	4	551	148	135	65	71	50	35	28	792	291	1083
	5	154	58	60	50	42	13	9	25	265	146	411
	6	76	68	46	34	31	13	5	12	158	127	285
GRAND TOTALS		1622	618	458	277	255	190	125	164	2460	1249	3709

[a] This category includes students designated as American Indian, Asian, and Other on the teacher-completed portion of the Student Questionnaire, as well as all students for whom ethnic group membership information was not provided.

[b] Legend: F = Fall 1975 (38 of 38 sites)
S = Spring 1976 (38 of 38 sites)

Note: The numbers of students shown in the fall only or spring only columns of this Table include 49, 52, or 55 students in grades 2, 3, and 4 (respectively) from the one site in which pretest administration was delayed until early February 1976.

TABLE VI-D-2a

NUMBER OF TITLE VII STUDENTS PRESENT IN THE IMPACT STUDY DATA BASE

Judged Language Dominance	Grade	Ethnic Group								Totals		Subtotals by Judged Language Dominance
		Hispanic		White Non-Hispanic		Black		Other[a]				
		F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	F & S[b]	F only or S only[b]	
English Monolingual	2	146	68	78	22	73	36	22	14	319	140	459
	3	299	94	122	37	88	42	53	24	562	197	759
	4	248	95	101	25	82	28	31	25	462	173	635
	5	300	86	68	26	48	18	36	16	452	146	598
	6	62	69	61	15	19	5	6	11	148	100	248
English-Dominant Bilingual	2	300	71	0	1	1	0	19	38	320	110	430
	3	463	83	10	5	1	13	19	8	493	109	602
	4	557	95	10	3	3	0	5	10	575	108	683
	5	337	61	5	0	3	1	24	14	369	76	445
	6	251	104	5	1	0	0	13	14	269	119	388
Spanish-Dominant Bilingual	2	71	34	0	0	0	0	8	9	79	43	122
	3	46	26	0	0	0	0	4	7	50	33	83
	4	63	58	0	0	0	0	6	6	69	64	133
	5	70	20	0	0	0	0	6	2	76	22	98
	6	23	6	0	1	1	0	11	2	35	9	44
Spanish Monolingual	2	296	121	1	0	0	0	41	66	338	187	525
	3	223	106	0	0	0	0	42	36	265	142	407
	4	157	86	4	4	0	0	21	25	182	115	297
	5	120	60	0	0	0	0	41	28	161	88	249
	6	64	41	1	0	0	0	22	31	87	72	159
Subtotals by Grade	2	813	294	79	23	74	36	90	127	1056	480	1536
	3	1031	309	132	42	89	55	118	75	1370	481	1851
	4	1025	334	115	32	85	28	63	66	1288	460	1748
	5	827	227	73	26	51	19	107	60	1058	332	1390
	6	400	220	67	17	20	5	52	58	539	300	839
GRAND TOTALS		4096	1384	466	140	319	143	430	386	5311	2053	7364

[a] This category includes students designated as American Indian, Asian, and Other on the teacher-completed portion of the Student Questionnaire, as well as all students for whom ethnic group membership information was not provided.

[b] Legend: F = Fall 1975 (38 of 38 sites)
S = Spring 1976 (38 of 38 sites)

Note: The numbers of students shown in the fall only or spring only columns of this Table include 52, 50, and 51 students in grades 2, 3, and 4 (respectively) from the one site in which pretest administration was delayed until early February 1976.

APPENDIX VI-F

SUPPORTING TABLES FOR CHAPTER VI, SECTION F

TABLE VI-F-1a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon all Students Present
During Both Fall 1975 and Spring 1976--Grade 2 Hispanic Students

```
                     TRTMNT
            COUNT   I
            ROW PCT INON-TITL TITL VII    ROW
            COL PCT I VII                 TOTAL
            TOT PCT I       1 I       2 I
            --------I--------I--------I
                   1 I   274  I   146  I    420
     MONO ENGLISH I   65.2  I   34.8  I   37.0
                  I   85.4  I   18.0  I
                  I   24.2  I   12.9  I
                 -I--------I--------I
                   2 I    25  I   300  I    325
      BIL ENG DOM I    7.7  I   92.3  I   28.7
                  I    7.8  I   36.9  I
                  I    2.2  I   26.5  I
                 -I--------I--------I
                   3 I     2  I    71  I     73
      BIL SPN DOM I    2.7  I   97.3  I    6.4
                  I    0.6  I    8.7  I
                  I    0.2  I    6.3  I
                 -I--------I--------I
                   4 I    20  I   296  I    316
     MONO SPANISH I    6.3  I   93.7  I   27.9
                  I    6.2  I   36.4  I
                  I    1.8  I   26.1  I
                 -I--------I--------I
            COLUMN      321       813      1134
             TOTAL     28.3      71.7     100.0
```

TABLE VI-F-2a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
                TRTMNT
       CCUNT   I
       RCW PCT INCN-TITL TITL VII   ROW
       COL PCT I VII                TCTAL
       TCT PCT I     1   I     2   I
       --------I---------I---------I
             1 I   441   I   299   I   740
  MONO ENGLISH I  59.6   I  40.4   I  47.7
               I  84.8   I  29.0   I
               I  28.4   I  19.3   I
              -I---------I---------I
             2 I    60   I   463   I   523
   BIL ENG DCM I  11.5   I  88.5   I  33.7
               I  11.5   I  44.9   I
               I   3.9   I  29.9   I
              -I---------I---------I
             3 I     1   I    46   I    47
   BIL SPN DCM I   2.1   I  97.9   I   3.0
               I   0.2   I   4.5   I
               I   0.1   I   3.0   I
              -I---------I---------I
             4 I    18   I   223   I   241
  MONO SPANISH I   7.5   I  92.5   I  15.5
               I   3.5   I  21.6   I
               I   1.2   I  14.4   I
              -I---------I---------I
        CCLUMN     520      1031      1551
         TOTAL    33.5      66.5     100.0
```

TABLE VI-F-3a

Crosstabulation of Judged Language Dominance by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4 Hispanic Students

```
                    TRTMNT
             COUNT  I
           ROW PCT  INON-TITL TITL VII    ROW
           COL PCT  I VII                 TOTAL
           TOT PCT  I     1   I     2   I
           ---------I---------I---------I
                 1  I   470   I   248   I   718
      MONO ENGLISH  I  65.5   I  34.5   I  45.6
                    I  85.3   I  24.2   I
                    I  29.8   I  15.7   I
                   -I---------I---------I
                 2  I    53   I   557   I   610
      BIL ENG DOM   I   8.7   I  91.3   I  38.7
                    I   9.6   I  54.3   I
                    I   3.4   I  35.3   I
                   -I---------I---------I
                 3  I     4   I    63   I    67
      BIL SPN DOM   I   6.0   I  94.0   I   4.3
                    I   0.7   I   6.1   I
                    I   0.3   I   4.0   I
                   -I---------I---------I
                 4  I    24   I   157   I   181
      MONO SPANISH  I  13.3   I  86.7   I  11.5
                    I   4.4   I  15.3   I
                    I   1.5   I  10.0   I
                   -I---------I---------I
            COLUMN      551      1025      1576
             TOTAL     35.0      65.0     100.0
```

TABLE VI-F-4a

Crosstabulation of Judged Language Dominance by Treatment Group Membership Based upon All Students Present During Both Fall and Spring 1976--Grade 5 Hispanic Students

```
                  TRTMNT
         COUNT   I
         ROW PCT INON-TITL TITL VII    ROW
         COL PCT I VII                 TOTAL
         TOT PCT I     1   I     2   I
         --------I---------I---------I
               1 I   121   I   300   I   421
    MONO ENGLISH I  28.7   I  71.3   I  42.9
                 I  78.6   I  36.3   I
                 I  12.3   I  30.6   I
                -I---------I---------I
               2 I    19   I   337   I   356
     BIL ENG DOM I   5.3   I  94.7   I  36.3
                 I  12.3   I  40.7   I
                 I   1.9   I  34.4   I
                -I---------I---------I
               3 I     1   I    70   I    71
     BIL SPN DOM I   1.4   I  98.6   I   7.2
                 I   0.6   I   8.5   I
                 I   0.1   I   7.1   I
                -I---------I---------I
               4 I    13   I   120   I   133
    MONO SPANISH I   9.8   I  90.2   I  13.6
                 I   8.4   I  14.5   I
                 I   1.3   I  12.2   I
                -I---------I---------I
          COLUMN     154       827       981
           TOTAL    15.7      84.3     100.0
```

TABLE VI-F-5a

Crosstabulation of Judged Language Dominance
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
                 TRTMNT
          COUNT  I
        ROW PCT  INON-TITL  TITL VII    ROW
        COL PCT  I VII                  TOTAL
        TOT PCT  I       1  I       2  I
        ---------I---------I---------I
               1 I     43  I     62  I    105
    MONO ENGLISH I   41.0  I   59.0  I   22.1
                 I   56.6  I   15.5  I
                 I    9.0  I   13.0  I
                -I---------I---------I
               2 I     31  I    251  I    282
     BIL ENG DOM I   11.0  I   89.0  I   59.2
                 I   40.8  I   62.8  I
                 I    6.5  I   52.7  I
                -I---------I---------I
               3 I      0  I     23  I     23
     BIL SPN DOM I    0.0  I  100.0  I    4.8
                 I    0.0  I    5.8  I
                 I    0.0  I    4.8  I
                -I---------I---------I
               4 I      2  I     64  I     66
    MONO SPANISH I    3.0  I   97.0  I   13.9
                 I    2.6  I   16.0  I
                 I    0.4  I   13.4  I
                -I---------I---------I
          COLUMN       76        400        476
           TOTAL     16.0       84.0      100.0
```

TABLE VI-F-6a

Crosstabulation of Years in Bilingual Education Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 2 Hispanic Students

```
            TRTMNT
 CCUNT    I
ROW PCT   INON-TITL TITL VII    ROW
COL PCT   I VII                 TOTAL
TOT PCT   I       1 I       2 I
 ---------I---------I---------I
        1 I      68 I     225 I    293
          I    23.2 I    76.8 I   32.6
          I    69.4 I    28.1 I
          I     7.6 I    25.1 I
         -I---------I---------I
        2 I      30 I     315 I    345
          I     8.7 I    91.3 I   38.4
          I    30.6 I    39.4 I
          I     3.3 I    35.1 I
         -I---------I---------I
        3 I       0 I     235 I    235
          I     0.0 I   100.0 I   26.2
          I     0.0 I    29.4 I
          I     0.0 I    26.2 I
         -I---------I---------I
        4 I       0 I      25 I     25
          I     0.0 I   100.0 I    2.8
          I     0.0 I     3.1 I
          I     0.0 I     2.8 I
         -I---------I---------I
        0 I    223M I     13M I   236M
          I     0.0 I     0.0 I    0.0
          I     0.0 I     0.0 I
          I     0.0 I     0.0 I
         -I---------I---------I
 COLUMN          98       800      898
  TOTAL        10.9      89.1    100.0
```

TABLE VI-F-7a

Crosstabulation of Years in Bilingual Education Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
            TRTMNT
 COUNT    I
 ROW PCT  INON-TITL  TITL VII     ROW
 COL PCT  I VII                   TOTAL
 TOT PCT  I      1  I       2  I
 ---------I---------I---------I
       1  I    130  I     216  I    346
          I   37.6  I    62.4  I   29.4
          I   76.5  I    21.5  I
          I   11.1  I    18.4  I
         -I---------I---------I
       2  I     14  I     299  I    313
          I    4.5  I    95.5  I   26.6
          I    8.2  I    29.7  I
          I    1.2  I    25.4  I
         -I---------I---------I
       3  I     26  I     389  I    415
          I    6.3  I    93.7  I   35.3
          I   15.3  I    38.7  I
          I    2.2  I    33.1  I
         -I---------I---------I
       4  I      0  I      98  I     98
          I    0.0  I   100.0  I    8.3
          I    0.0  I     9.7  I
          I    0.0  I     8.3  I
         -I---------I---------I
       5  I      0  I       4  I      4
          I    0.0  I   100.0  I    0.3
          I    0.0  I     0.4  I
          I    0.0  I     0.3  I
         -I---------I---------I
       0  I    350M I      25M I    375M
          I    0.0  I     0.0  I    0.0
          I    0.0  I     0.0  I
          I    0.0  I     0.0  I
         -I---------I---------I
 COLUMN        170       1006       1176
  TOTAL       14.5       85.5      100.0
```

TABLE VI-F-8a

Crosstabulation of Years in Bilingual Education Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 4 Hispanic Students

```
            TRTMNT
  COUNT    I
ROW PCT    INON-TITL TITL VII    ROW
COL PCT    I VII                 TOTAL
TOT PCT    I     1   I     2   I
   --------I---------I---------I
        1  I   149   I   212   I   361
           I  41.3   I  58.7   I  31.4
           I  87.6   I  21.7   I
           I  13.0   I  18.5   I
          -I---------I---------I
        2  I     5   I   145   I   150
           I   3.3   I  96.7   I  13.1
           I   2.9   I  14.8   I
           I   0.4   I  12.6   I
          -I---------I---------I
        3  I    14   I   285   I   299
           I   4.7   I  95.3   I  26.0
           I   8.2   I  29.1   I
           I   1.2   I  24.8   I
          -I---------I---------I
        4  I     2   I   285   I   287
           I   0.7   I  99.3   I  25.0
           I   1.2   I  29.1   I
           I   0.2   I  24.8   I
          -I---------I---------I
        5  I     0   I    49   I    49
           I   0.0   I 100.0   I   4.3
           I   0.0   I   5.0   I
           I   0.0   I   4.3   I
          -I---------I---------I
        6  I     0   I     2   I     2
           I   0.0   I 100.0   I   0.2
           I   0.0   I   0.2   I
           I   0.0   I   0.2   I
          -I---------I---------I
        0  I   381M  I    47M  I   428M
           I   0.0   I   0.0   I   0.0
           I   0.0   I   0.0   I
           I   0.0   I   0.0   I
          -I---------I---------I
  COLUMN       170       978      1148
   TOTAL      14.8      85.2     100.0
```

TABLE VI-F-9a

Crosstabulation of Years in Bilingual Education Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5 Hispanic Students

```
          TRTMNT
COUNT    I
ROW PCT  INON-TITL TITL VII   ROW
COL PCT  I VII                TOTAL
TOT PCT  I     1   I     2   I
---------I---------I---------I
       1 I     50  I    153  I   203
         I   24.6  I   75.4  I  23.9
         I   83.3  I   19.4  I
         I    5.9  I   18.0  I
        -I---------I---------I
       2 I      3  I    137  I   140
         I    2.1  I   97.9  I  16.5
         I    5.0  I   17.4  I
         I    0.4  I   16.2  I
        -I---------I---------I
       3 I      3  I    155  I   158
         I    1.9  I   98.1  I  18.6
         I    5.0  I   19.7  I
         I    0.4  I   18.3  I
        -I---------I---------I
       4 I      4  I    177  I   181
         I    2.2  I   97.8  I  21.3
         I    6.7  I   22.5  I
         I    0.5  I   20.9  I
        -I---------I---------I
       5 I      0  I    165  I   165
         I    0.0  I  100.0  I  19.5
         I    0.0  I   20.9  I
         I    0.0  I   19.5  I
        -I---------I---------I
       6 I      0  I      1  I     1
         I    0.0  I  100.0  I   0.1
         I    0.0  I    0.1  I
         I    0.0  I    0.1  I
        -I---------I---------I
       0 I    94M  I    39M  I   133M
         I    0.0  I    0.0  I   0.0
         I    0.0  I    0.0  I
         I    0.0  I    0.0  I
        -I---------I---------I
  COLUMN        60       788       848
   TOTAL       7.1      92.9     100.0
```

TABLE VI-F-10a

Crosstabulation of Years in Bilingual Education Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
               TRTMNT
 COUNT        I
ROW PCT       INON-TITL TITL VII   ROW
COL PCT       I VII                TOTAL
TOT PCT       I     1  I     2  I
--------------I--------I--------I
         1    I     7  I    54  I    61
              I  11.5  I  88.5  I  19.7
              I 100.0  I  17.8  I
              I   2.3  I  17.4  I
             -I--------I--------I
         2    I     0  I    51  I    51
              I   0.0  I 100.0  I  16.5
              I   0.0  I  16.8  I
              I   0.0  I  16.5  I
             -I--------I--------I
         3    I     0  I    58  I    58
              I   0.0  I 100.0  I  18.7
              I   0.0  I  19.1  I
              I   0.0  I  18.7  I
             -I--------I--------I
         4    I     0  I    68  I    68
              I   0.0  I 100.0  I  21.9
              I   0.0  I  22.4  I
              I   0.0  I  21.9  I
             -I--------I--------I
         5    I     0  I    35  I    35
              I   0.0  I 100.0  I  11.3
              I   0.0  I  11.6  I
              I   0.0  I  11.3  I
             -I--------I--------I
         6    I     0  I    37  I    37
              I   0.0  I 100.0  I  11.9
              I   0.0  I  12.2  I
              I   0.0  I  11.9  I
             -I--------I--------I
         0    I   69M  I   97M  I   166M
              I   0.0  I   0.0  I   0.0
              I   0.0  I   0.0  I
              I   0.0  I   0.0  I
             -I--------I--------I
 COLUMN             7     303      310
  TOTAL           2.3    97.7    100.0
```

TABLE VI-F-11a

Crosstabulation of Basis for Presence in Bilingual Project Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 2 Hispanic Students

```
                    TRTMNT
             COUNT I
           ROW PCT INON-TITL TITL VII    ROW
           COL PCT I VII                 TOTAL
           TOT PCT I       1 I       2 I
EPBPCYST   --------I--------I--------I
                 1 I        I      56 I     61
  SPANISH SURNAME  I  N.A.  I    91.8 I    6.7
                   I        I     7.1 I
                   I        I     6.1 I
                  -I--------I--------I
                 2 I        I     263 I    289
  NEED FOR ENGL IN I  N.A.  I    91.0 I   31.7
                   I        I    33.1 I
                   I        I    28.8 I
                  -I--------I--------I
                 3 I        I     262 I    269
  PARENT REQUEST   I  N.A.  I    97.4 I   29.5
                   I        I    33.0 I
                   I        I    28.7 I
                  -I--------I--------I
                 4 I        I      71 I     84
  BILINGUALISM     I  N.A.  I    84.5 I    9.2
                   I        I     8.9 I
                   I        I     7.8 I
                  -I--------I--------I
                 5 I        I     142 I    209
  OTHER            I  N.A.  I    67.9 I   22.9
                   I        I    17.9 I
                   I        I    15.6 I
                  -I--------I--------I
                 0 I        I     19M I    222M
                   I  N.A.  I     0.0 I    0.0
                   I        I     0.0 I
                   I        I     0.0 I
                  -I--------I--------I
            COLUMN                794      912
             TOTAL               87.1    100.0
```

TABLE VI-F-12a

Crosstabulation of Basis for Presence in Bilingual Project Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
                      TRTMNT
               CCUNT  I
             ROW PCT  INON-TITL  TITL VII    ROW
             CCL PCT  I VII                  TOTAL
             TOT PCT  I      1  I      2  I
BPBPCYST     --------I--------I--------I
                   1  I         I     65  I    73
  SPANISH SURNAME     I  N.A.   I   89.0  I    5.5
                      I         I    6.5  I
                      I         I    4.9  I
                     -I---------I---------I
                   2  I         I    298  I   363
  NEED FCR ENGL IN    I  N.A.   I   82.1  I   27.3
                      I         I   30.0  I
                      I         I   22.4  I
                     -I---------I---------I
                   3  I         I    381  I   382
  PARENT REQUEST      I  N.A.   I   99.7  I   28.7
                      I         I   38.4  I
                      I         I   28.6  I
                     -I---------I---------I
                   4  I         I    115  I   117
  BILINGUALISM        I  N.A.   I   98.3  I    8.8
                      I         I   11.6  I
                      I         I    8.6  I
                     -I---------I---------I
                   5  I         I    134  I   396
  OTHER               I  N.A.   I   33.8  I   29.8
                      I         I   13.5  I
                      I         I   10.1  I
                     -I---------I---------I
                   0  I         I     38M I   220M
                      I  N.A.   I    0.0  I    0.0
                      I         I    0.0  I
                      I         I    0.0  I
                     -I---------I---------I
              COLUMN                  993      1331
               TOTAL                 74.6     100.0
```

TABLE F-13a

Crosstabulation of Basis for Presence in Bilingual Project Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 4 Hispanic Students

```
                     TRTMNT
             COUNT  I
           ROW PCT  INON-TITL TITL VII    ROW
           CCL PCT  I VII                TOTAL
           TOT PCT  I     1   I     2  I
           ---------I---------I--------I
                 1  I         I    85  I    88
SPANISH SURNAME     I  N.A.   I  96.6  I   6.8
                    I         I   8.5  I
                    I         I   6.5  I
                   -I---------I--------I
                 2  I         I   249  I   268
NEED FOR ENGL IN    I  N.A.   I  92.9  I  20.6
                    I         I  24.9  I
                    I         I  19.2  I
                   -I---------I--------I
                 3  I         I   271  I   271
PARENT REQUEST      I  N.A.   I 100.0  I  20.8
                    I         I  27.1  I
                    I         I  20.8  I
                   -I---------I--------I
                 4  I         I   290  I   296
BILINGUALISM        I  N.A.   I  98.0  I  22.8
                    I         I  29.0  I
                    I         I  22.3  I
                   -I---------I--------I
                 5  I         I   105  I   377
OTHER               I  N.A.   I  27.9  I  29.0
                    I         I  10.5  I
                    I         I   8.1  I
                   -I---------I--------I
                 0  I         I   25M  I  276M
                    I  N.A.   I   0.0  I   0.0
                    I         I   0.0  I
                    I         I   0.0  I
                   -I---------I--------I
            COLUMN                1000    1300
             TOTAL                76.9   100.0
```

TABLE-VI F-14a

Crosstabulation of Basis for Presence in Bilingual Project Classes by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5 Hispanic Students

```
                 TRTMNT
         COUNT  I
       ROW PCT  INON-TITL TITL VII    ROW
       COL PCT  I VII                 TOTAL
       TOT PCT  I     1   I     2   I
       ---------I---------I---------I
              1 I         I    48   I    67
SPANISH SURNAME I  N.A.   I  71.6   I   7.4
                I         I   5.9   I
                I         I   5.3   I
               -I---------I---------I
              2 I         I   145   I   184
NEED FOR ENGL IN I N.A.   I  78.8   I  20.4
                I         I  17.8   I
                I         I  16.1   I
               -I---------I---------I
              3 I         I   257   I   257
PARENT REQUEST  I  N.A.   I 100.0   I  28.6
                I         I  31.5   I
                I         I  28.6   I
               -I---------I---------I
              4 I         I   174   I   183
BILINGUALISM    I  N.A.   I  95.1   I  20.3
                I         I  21.3   I
                I         I  19.3   I
               -I---------I---------I
              5 I         I   191   I   209
OTHER           I  N.A.   I  91.4   I  23.2
                I         I  23.4   I
                I         I  21.2   I
               -I---------I---------I
              0 I         I   12M   I   81M
                I  N.A.   I   0.0   I   0.0
                I         I   0.0   I
                I         I   0.0   I
               -I---------I---------I
         COLUMN               815       900
          TOTAL              90.6     100.0
```

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TABLE VI-F-15a

Crosstabulation of Basis for Presence in Bilingual Project Classes
by Treatment Group Membership Based upon All Students Present
During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
                    TRTMNT
          COUNT    I
        RCW PCT    INCN-TITL  TITL VII      RCW
        COL PCT    I VII                    TCTAL
        TOT PCT    I        1  I        2  I
        --------I--------I--------I
               1    I          I     31   I     31
SPANISH SURNAME     I   N.A.   I  100.0   I    6.9
                    I          I    8.0   I
                    I          I    6.9   I
                   -I----------I----------I
               2    I          I     81   I     92
NEED FOR ENGL  IN   I   N.A.   I   88.0   I   20.5
                    I          I   21.0   I
                    I          I   18.1   I
                   -I----------I----------I
               3    I          I    156   I    156
PARENT REQUEST      I   N.A.   I  100.0   I   34.8
                    I          I   40.4   I
                    I          I   34.8   I
                   -I----------I----------I
               4    I          I     86   I     86
BILINGUALISM        I   N.A.   I  100.0   I   19.2
                    I          I   22.3   I
                    I          I   19.2   I
                   -I----------I----------I
               5    I          I     32   I     83
CTHER               I   N.A.   I   38.6   I   18.5
                    I          I    8.3   I
                    I          I    7.1   I
                   -I----------I----------I
               0    I          I    14M   I    28M
                    I   N.A.   I    0.0   I    0.0
                    I          I    0.0   I
                    I          I    0.0   I
                   -I----------I----------I
          CCLUMN                    386        448
          TOTAL                    86.2      100.0
```

TABLE VI-F-16a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 2 Hispanic Students

```
             TRTMNT
 COUNT    I
 ROW PCT  INON-TITL  TITL VII     ROW
 COL PCT  I VII                  TOTAL
 TOT PCT  I      1  I      2  I
 ---------I---------I---------I
       6  I      7  I     28  I     35
          I   20.0  I   80.0  I    3.2
          I    2.3  I    3.5  I
          I    0.6  I    2.5  I
         -I---------I---------I
       7  I    220  I    499  I    719
          I   30.6  I   69.4  I   65.1
          I   72.6  I   62.3  I
          I   19.9  I   45.2  I
         -I---------I---------I
       8  I     63  I    234  I    297
          I   21.2  I   78.8  I   26.9
          I   20.8  I   29.2  I
          I    5.7  I   21.2  I
         -I---------I---------I
       9  I      8  I     37  I     45
          I   17.8  I   82.2  I    4.1
          I    2.6  I    4.6  I
          I    0.7  I    3.4  I
         -I---------I---------I
      10  I      5  I      3  I      8
          I   62.5  I   37.5  I    0.7
          I    1.7  I    0.4  I
          I    0.5  I    0.3  I
         -I---------I---------I
       0  I    18M  I    12M  I    30M
          I    0.0  I    0.0  I    0.0
          I    0.0  I    0.0  I
          I    0.0  I    0.0  I
         -I---------I---------I
 COLUMN        303       801      1104
 TOTAL        27.4      72.6     100.0
```

TABLE VI-F-17a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
            TRTMNT
COUNT     I
ROW PCT   INCN-TITL TITL VII    RCW
COL PCT   I VII                 TCTAL
TOT PCT   I      1  I      2  I
 ---------I---------I---------I
        7 I     12  I     23  I     35
          I   34.3  I   65.7  I    2.3
          I    2.3  I    2.2  I
          I    0.8  I    1.5  I
         -I---------I---------I
        8 I    289  I    620  I    909
          I   31.8  I   68.2  I   58.9
          I   56.0  I   60.3  I
          I   18.7  I   40.2  I
         -I---------I---------I
        9 I    167  I    335  I    502
          I   33.3  I   66.7  I   32.5
          I   32.4  I   32.6  I
          I   10.8  I   21.7  I
         -I---------I---------I
       10 I     48  I     50  I     98
          I   49.0  I   51.0  I    6.3
          I    9.3  I    4.9  I
          I    3.1  I    3.2  I
         -I---------I---------I
        0 I     4M  I     3M  I     7M
          I    0.0  I    0.0  I    0.0
          I    0.C  I    0.0  I
          I    C.0  I    0.0  I
         -I---------I---------I
   COLUMN      516      1028       1544
    TOTAL     33.4      66.6      100.0
```

TABLE VI-F-18a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4 Hispanic Students

```
             TRTMNT
   COUNT    I
 ROW PCT    INON-TITL  TITL VII      ROW
 COL PCT    I VII                   TOTAL
 TOT PCT    I      1  I      2  I
 --------I--------I--------I
        8   I      9  I     22  I      31
            I   29.0  I   71.0  I     2.0
            I    1.6  I    2.2  I
            I    0.6  I    1.4  I
           -I--------I--------I
        9   I    250  I    604  I     854
            I   29.3  I   70.7  I    54.4
            I   45.4  I   59.2  I
            I   15.9  I   38.4  I
           -I--------I--------I
       10   I    292  I    394  I     686
            I   42.6  I   57.4  I    43.7
            I   53.0  I   38.6  I
            I   18.6  I   25.1  I
           -I--------I--------I
        0   I     0M  I     5M  I      5M
            I    0.0  I    0.0  I     0.0
            I    0.0  I    0.0  I
            I    0.0  I    0.0  I
           -I--------I--------I
   COLUMN        551      1020      1571
    TOTAL       35.1      64.9     100.0
```

TABLE VI-F-19a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5 Hispanic Students

```
            TRTMNT
 COUNT    I
 ROW PCT  INON-TITL TITL VII    ROW
 COL PCT  I VII                 TOTAL
 TOT PCT  I       1 I       2 I
 ---------I---------I---------I
        9 I       0 I      41 I     41
          I     0.0 I   100.0 I    4.2
          I     0.0 I     5.0 I
          I     0.0 I     4.2 I
        -I---------I---------I
       10 I     154 I     784 I    938
          I    16.4 I    83.6 I   95.8
          I   100.0 I    95.0 I
          I    15.7 I    80.1 I
        -I---------I---------I
        0 I      0M I      2M I     2M
          I     0.0 I     0.0 I    0.0
          I     0.0 I     0.0 I
          I     0.0 I     0.0 I
        -I---------I---------I
 COLUMN         154       825      979
 TOTAL         15.7      84.3    100.0
```

TABLE VI-F-20a

Crosstabulation of Student Age by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
          TRTMNT
 COUNT    I
 RCW PCT  INCN-TITL  TITL VII     RCW
 COL PCT  I VII                   TCTAL
 TOT PCT  I      1  I      2  I
 ---------I---------I---------I
        5 I      0  I      1  I      1
          I    C.C  I  100.0  I    0.2
          I    0.0  I    0.3  I
          I    0.0  I    0.2  I
         -I---------I---------I
        9 I      0  I      1  I      1
          I    0.0  I  100.0  I    0.2
          I    C.C  I    0.3  I
          I    0.0  I    0.2  I
         -I---------I---------I
       10 I     76  I    397  I    473
          I   16.1  I   83.9  I   99.6
          I  100.0  I   99.5  I
          I   16.0  I   83.6  I
         -I---------I---------I
        0 I     0M  I     1M  I     1M
          I    0.0  I    0.0  I    0.0
          I    0.0  I    0.0  I
          I    C.0  I    0.0  I
         -I---------I---------I
  CCLUMN        76        399       475
   TOTAL      16.0       84.0     100.0
```

TABLE VI-F-21a

Crosstabulation of Sex of Student by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 2 Hispanic Students

```
                        TRTMNT
                COUNT  I
              ROW PCT  INON-TITL  TITL VII    ROW
              COL PCT  I VII                  TOTAL
              TOT PCT  I      1  I       2  I
              ---------I---------I---------I
                    1  I    105  I    152  I    257
BOYS                   I   40.9  I   59.1  I   47.2
                       I   50.2  I   45.2  I
                       I   19.3  I   27.9  I
                      -I---------I---------I
                    2  I    104  I    184  I    288
GIRLS                  I   36.1  I   63.9  I   52.8
                       I   49.8  I   54.8  I
                       I   19.1  I   33.8  I
                      -I---------I---------I
                    0  I    112M I    477M I    589M
                       I    0.0  I    0.0  I    0.0
                       I    0.0  I    0.0  I
                       I    0.0  I    0.0  I
                      -I---------I---------I
               COLUMN       209       336       545
                TOTAL      38.3      61.7     100.0
```

TABLE VI-F-22a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
                            TRTMNT
                  COUNT   I
                  ROW PCT INCN-TITL TITL VII   RCW
                  COL PCT I VII                TOTAL
                  TCT PCT I      1  I      2  I
                  --------I---------I---------I
                        1 I    201  I    404  I   605
BOYS                      I   33.2  I   66.8  I  47.7
                          I   48.4  I   47.4  I
                          I   15.9  I   31.9  I
                         -I---------I---------I
                        2 I    214  I    449  I   663
GIRLS                     I   32.3  I   67.7  I  52.3
                          I   51.6  I   52.6  I
                          I   16.9  I   35.4  I
                         -I---------I---------I
                        0 I    105M I    178M I   283M
                          I    0.0  I    0.0  I   0.0
                          I    0.0  I    0.0  I
                          I    0.0  I    0.0  I
                         -I---------I---------I
                  COLUMN       415       853      1268
                   TOTAL      32.7      67.3     100.0
```

TABLE VI-F-23a

Crosstabulation of Sex of Student by Treatment Group
Membership Based upon All Students Present During Both Fall 1975
and Spring 1976--Grade 4 Hispanic Students

```
                      TRTMNT
              COUNT   I
              ROW PCT INCN-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I       1  I       2  I
              --------I---------I---------I
                    1 I     199  I     441  I    640
BOYS                  I    31.1  I    68.9  I    50.0
                      I    52.0  I    49.2  I
                      I    15.5  I    34.5  I
                     -I---------I---------I
                    2 I     184  I     456  I    640
GIRLS                 I    28.8  I    71.3  I    50.0
                      I    48.0  I    50.8  I
                      I    14.4  I    35.6  I
                     -I---------I---------I
                    0 I    168M  I    128M  I    296M
                      I     0.0  I     0.0  I     0.0
                      I     0.0  I     0.0  I
                      I     0.0  I     0.0  I
                     -I---------I---------I
              COLUMN        383        897       1280
               TOTAL       29.9       70.1      100.0
```

TABLE VI-F-24a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5 Hispanic Students

```
                        TRTMNT
                COUNT   I
                RCW PCT INCN-TITL TITL VII    RCW
                COL PCT I VII                 TOTAL
                TCT PCT I      1  I      2  I
                --------I---------I---------I
                      1 I     61  I    365  I   426
BOYS                    I   14.3  I   85.7  I  49.5
                        I   48.4  I   49.7  I
                        I    7.1  I   42.4  I
                       -I---------I---------I
                      2 I     65  I    369  I   434
GIRLS                   I   15.0  I   85.0  I  50.5
                        I   51.6  I   50.3  I
                        I    7.6  I   42.9  I
                       -I---------I---------I
                      0 I    28M  I    93M  I   121M
                        I    0.0  I    0.0  I   0.0
                        I    0.0  I    0.0  I
                        I    0.0  I    0.0  I
                       -I---------I---------I
                COLUMN       126        734      860
                 TCTAL      14.7       85.3    100.0
```

TABLE VI-F-25a

Crosstabulation of Sex of Student by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
                       TRTMNT
             CCUNT    I
             RCW PCT  INCN-TITL  TITL VII     ROW
             COL PCT  I VII                   TCTAL
             TOT PCT  I      1   I      2   I
             --------I--------I--------I
                   1  I     26   I    148   I    174
BOYS                  I   14.9   I   85.1   I   43.3
                      I   40.6   I   43.8   I
                      I    6.5   I   36.8   I
                     -I--------I--------I
                   2  I     38   I    190   I    228
GIRLS                 I   16.7   I   83.3   I   56.7
                      I   59.4   I   56.2   I
                      I    9.5   I   47.3   I
                     -I--------I--------I
                   0  I    12M   I    62M   I    74M
                      I    0.0   I    0.0   I    0.0
                      I    0.0   I    0.0   I
                      I    0.0   I    0.0   I
                     -I--------I--------I
             COLUMN        64        338         402
              TOTAL      15.9       84.1       100.0
```

TABLE VI-F-26a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 2 Hispanic Students

```
                        TRTMNT
              COUNT   I
              ROW PCT INON-TITL TITL VII    ROW
              COL PCT I VII                 TOTAL
              TOT PCT I     1   I     2   I
              --------I---------I---------I
                    1 I   312   I   728   I  1040
    NO                I  30.0   I  70.0   I  97.8
                      I  99.4   I  97.2   I
                      I  29.4   I  68.5   I
                     -I---------I---------I
                    2 I     2   I    21   I    23
    YES               I   8.7   I  91.3   I   2.2
                      I   0.6   I   2.8   I
                      I   0.2   I   2.0   I
                     -I---------I---------I
                    0 I     7M  I    64M  I    71M
                      I   0.0   I   0.0   I   0.0
                      I   0.0   I   0.0   I
                      I   0.0   I   0.0   I
                     -I---------I---------I
              COLUMN      314       749      1063
               TOTAL     29.5      70.5     100.0
```

TABLE VI-F-27a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 3 Hispanic Students

```
                         TRTMNT
                 COUNT   I
                 ROW PCT INON-TITL TITL VII    ROW
                 COL PCT I VII                 TOTAL
                 TOT PCT I       1 I       2 I
                 --------I---------I---------I
                       1 I     457 I     831 I  1288
NO                       I    35.5 I    64.5 I  97.2
                         I    98.3 I    96.6 I
                         I    34.5 I    62.7 I
                        -I---------I---------I
                       2 I       8 I      29 I    37
YES                      I    21.6 I    78.4 I   2.8
                         I     1.7 I     3.4 I
                         I     0.6 I     2.2 I
                        -I---------I---------I
                       0 I     55M I    171M I  226M
                         I     0.0 I     0.0 I   0.0
                         I     0.0 I     0.0 I
                         I     0.0 I     0.0 I
                        -I---------I---------I
                  COLUMN       465       860    1325
                   TOTAL      35.1      64.9   100.0
```

TABLE VI-F-28a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 4 Hispanic Students

```
                            TRTMNT
                  COUNT    I
                  ROW PCT  INON-TITL TITL VII    ROW
                  COL PCT  I VII                 TOTAL
                  TOT PCT  I      1  I      2  I
                  ---------I---------I---------I
                        1  I    523  I    905  I   1428
NO                         I   36.6  I   63.4  I   97.5
                           I   97.9  I   97.2  I
                           I   35.7  I   61.8  I
                          -I---------I---------I
                        2  I     11  I     26  I     37
YES                        I   29.7  I   70.3  I    2.5
                           I    2.1  I    2.8  I
                           I    0.8  I    1.8  I
                          -I---------I---------I
                        0  I    17M  I    94M  I   111M
                           I    0.0  I    0.0  I    0.0
                           I    0.0  I    0.0  I
                           I    0.0  I    0.0  I
                          -I---------I---------I
                   COLUMN       534       931      1465
                   TOTAL       36.5      63.5     100.0
```

TABLE VI-F-29a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 5 Hispanic Students

```
                      TRTMNT
              COUNT  I
            ROW PCT  INON-TITL TITL VII    ROW
            COL PCT  I VII                 TOTAL
            TOT PCT  I      1  I      2  I
            ---------I---------I---------I
                  1  I    143  I    683  I    826
   NO                I   17.3  I   82.7  I   97.8
                     I   99.3  I   97.4  I
                     I   16.9  I   80.8  I
                    -I---------I---------I
                  2  I      1  I     18  I     19
   YES               I    5.3  I   94.7  I    2.2
                     I    0.7  I    2.6  I
                     I    0.1  I    2.1  I
                    -I---------I---------I
                  0  I    10M  I   126M  I   136M
                     I    0.0  I    0.0  I    0.0
                     I    0.0  I    0.0  I
                     I    0.0  I    0.0  I
                    -I---------I---------I
             COLUMN       144       701       845
              TOTAL      17.0      83.0     100.0
```

TABLE VI-F-30a

Crosstabulation of First School Year in Continental United States by Treatment Group Membership Based upon All Students Present During Both Fall 1975 and Spring 1976--Grade 6 Hispanic Students

```
                       TRTMNT
              COUNT   I
            ROW PCT   INON-TITL  TITL VII    ROW
            COL PCT   I VII                  TOTAL
            TOT PCT   I      1  I      2  I
            ---------I---------I---------I
                  1   I     68  I    342  I    410
  NO                  I   16.6  I   83.4  I   96.2
                      I  100.0  I   95.5  I
                      I   16.0  I   80.3  I
                     -I---------I---------I
                  2   I      0  I     16  I     16
  YES                 I    0.0  I  100.0  I    3.8
                      I    0.0  I    4.5  I
                      I    0.0  I    3.8  I
                     -I---------I---------I
                  0   I     8M  I    42M  I    50M
                      I    0.0  I    0.0  I    0.0
                      I    0.0  I    0.0  I
                      I    0.0  I    0.0  I
                     -I---------I---------I
             COLUMN          68       358      426
              TOTAL        16.0      84.0    100.0
```

TABLE VI-F-31a

Average Number of School Days Absent Between Fall 1975 Pretest and Spring 1976 Posttest--Hispanic Students

Grade	Non-Title VII			Title VII		
	Number[a]	Mean	Standard Deviation	Number[a]	Mean	Standard Deviation
2	297	11.1	8.6	655	12.6	10.9
3	432	9.0	7.5	709	11.7	10.8
4	423	8.9	8.5	804	10.0	9.4
5	132	9.9	10.6	615	11.1	10.0
6	63	12.7	11.5	302	11.4	10.3

[a] Based upon students who were present during both fall 1975 and spring 1976 because these were used as reference points for teachers who supplied this information. Students for whom this information was not provided were not included in these computations.

TABLE VI-F-32a

Tests of the Analysis of Covariance Assumption of Homogeneity of Within-Group Regression--Hispanic Students

		Number of Students			Full Model (Different slopes for pretest, different slopes for SES)			Restricted Model (Same slope for pretest, same slope for SES)		
Outcome Variable	Grade	Non-Title VII	Title VII	Total	df	R^2	F	df	R^2	F
CTBS - Reading Total	2	297	722	1019	5, 1013	.48251	188.91**	2, 1013	.48235	.157
	3	469	905	1374	5, 1368	.56693	358.17**	2, 1368	.56557	2.148
	4	515	941	1456	5, 1450	.73108	788.37**	2, 1450	.72955	4.126*
	5	144	731	875	5, 869	.49567	170.81**	2, 869	.49477	.775
	6	68	341	409	5, 403	.62740	135.72**	2, 403	.62437	1.639
CTBS - Vocabulary	2	296	719	1015	5, 1009	.47053	179.33**	2, 1009	.47046	.067
	3	488	948	1436	5, 1430	.48250	266.66**	2, 1430	.47987	3.635*
	4	523	955	1478	5, 1472	.66105	574.17**	2, 1472	.65839	5.778**
	5	144	749	893	5, 887	.59436	259.93**	2, 887	.59174	2.865
	6	69	360	429	5, 423	.63326	146.08**	2, 423	.63258	.392
CTBS - Mathematics Computation	2	291	728	1019	5, 1013	.32078	95.68**	2, 1013	.31992	.641
	3	462	942	1404	5, 1398	.37595	168.44**	2, 1398	.36735	9.635**
	4	464	950	1414	5, 1408	.54592	338.56**	2, 1408	.54177	6.434**
	5	141	727	868	5, 862	.49711	170.42**	2, 862	.49384	2.803
	6	71	343	414	5, 408	.48662	77.35**	2, 408	.48509	.608
Attitude Toward School	2	287	723	1010	5, 1004	.05982	12.78**	2, 1004	.05934	.256
	3	493	936	1429	5, 1423	.08382	26.04**	2, 1423	.07820	4.365*
	4	515	938	1453	5, 1447	.16641	57.77**	2, 1447	.16470	1.484
	5	140	742	882	5, 876	.16551	34.75**	2, 876	.16524	.142
	6	71	343	414	5, 408	.24342	26.26**	2, 408	.22419	5.185**

Legend: * $p \leq .05$; ** $p \leq .01$

TABLE VI-F-33a

Tests of the Analysis of Covariance Assumption of Homogeneity of Within-Group Regression--White Non-Hispanic Students

Outcome Variable	Grade	Number of Students			Full Model (Different slopes for pretest, different slopes for SES)			Restricted Model (Same slope for pretest, same slope for SES)		
		Non-Title VII	Title VII	Total	df	R^2	F	df	R^2	F
CTBS - Reading Total	2	81	72	153	5, 147	.59515	43.22**	2, 147	.59033	.875
	3	115	124	239	5, 233	.63603	81.43**	2, 233	.63347	.819
	4	119	102	221	5, 215	.75416	131.91**	2, 215	.74582	3.647*
	5	58	60	118	5, 112	.69905	52.03**	2, 112	.69744	.300
	6	42	60	102	5, 96	.54301	22.81**	2, 96	.46389	8.310**
CTBS - Vocabulary	2	80	71	151	5, 145	.54214	34.34**	2, 145	.53762	.716
	3	116	126	242	5, 236	.55965	59.99**	2, 236	.55395	1.527
	4	120	104	224	5, 218	.65431	82.53**	2, 218	.64279	3.632*
	5	59	60	119	5, 113	.58851	32.32**	2, 113	.58187	.912
	6	42	61	103	5, 97	.49945	19.36**	2, 97	.45073	4.721*
CTBS - Mathematics Computation	2	88	70	158	5, 152	.39660	19.98**	2, 152	.38804	1.078
	3	102	114	216	5, 210	.48532	39.60**	2, 210	.45268	6.659**
	4	111	108	219	5, 213	.48398	39.96**	2, 213	.47508	1.837
	5	57	63	120	5, 114	.44083	17.97**	2, 114	.42593	1.519
	6	43	61	104	5, 98	.58363	27.47**	2, 98	.58301	.073
Attitude Toward School	2	78	71	149	5, 143	.12280	4.00**	2, 143	.11033	1.016
	3	112	110	222	5, 216	.08263	3.89**	2, 216	.07022	1.461
	4	119	105	224	5, 218	.16977	8.92**	2, 218	.16702	.361
	5	49	59	108	5, 102	.04062	0.86	2, 102	.02902	.617
	6	43	60	103	5, 97	.29676	8.19**	2, 97	.24544	3.539*

Legend: * $p \leq .05$; ** $p \leq .01$

TABLE VI-F-34a

Tests of the Analysis of Covariance Assumption of Homogeneity of Within-Group Regression--Black Students

Outcome Variable	Grade	Number of Students			Full Model (Different slopes for pretest, different slopes for SES)			Restricted Model (Same slope for pretest, same slope for SES)		
		Non-Title VII	Title VII	Total	df	R^2	F	df	R^2	F
CTBS - Reading Total	2	47	67	114	5, 108	.44539	17.35**	2, 108	.44388	.147
	3	51	75	126	5, 120	.52551	26.58**	2, 120	.52321	.291
	4	62	75	137	5, 131	.68713	57.54**	2, 131	.68656	.119
	5	38	47	85	5, 79	.71858	40.34**	2, 79	.69026	3.975*
	6	26	20	46	5, 40	.64656	14.63**	2, 40	.61416	1.833
CTBS - Vocabulary	2	47	65	112	5, 106	.59607	31.28**	2, 106	.58793	1.068
	3	51	80	131	5, 125	.40741	17.19**	2, 125	.40535	.217
	4	62	76	138	5, 132	.64252	47.45**	2, 132	.63477	1.431
	5	38	47	85	5, 79	.67846	33.34**	2, 79	.63862	4.894**
	6	26	20	46	5, 40	.63814	14.11**	2, 40	.60164	2.017
CTBS - Mathematics Computation	2	40	66	106	5, 100	.28608	8.01**	2, 100	.27594	.710
	3	53	72	125	5, 119	.52034	25.82**	2, 119	.51426	.754
	4	65	81	146	5, 140	.47718	25.56**	2, 140	.43663	5.429**
	5	38	44	82	5, 76	.63746	26.73**	2, 76	.59509	4.441*
	6	27	18	45	5, 39	.65661	14.91**	2, 39	.62840	1.602
Attitude Toward School	2	43	58	101	5, 95	.07953	1.64	2, 95	.04796	1.629
	3	57	80	137	5, 131	.07037	1.98	2, 131	.04936	1.480
	4	66	77	143	5, 137	.22417	7.92**	2, 137	.21346	.946
	5	38	46	84	5, 78	.12855	2.30*	2, 78	.12731	.055
	6	27	19	46	5, 40	.27509	3.04*	2, 40	.18809	2.400

Legend: * $p \leq .05$; ** $p \leq .01$

TABLE VI-F-35a

Tests of the Analysis of Covariance Assumption of Homogeneity of Within-Group Regression--Other Students

Outcome Variable	Grade	Number of Students			Full Model (Different slopes for pretest, different slopes for SES)			Restricted Model (Same slope for pretest same slope for SES)		
		Non-Title VII	Title VII	Total	df	R^2	F	df	R^2	F
CTBS - Reading Total	2	32	77	109	5, 103	.67652	43.08**	2, 103	.67040	.974
	3	41	97	138	5, 132	.72262	68.77**	2, 132	.71887	.892
	4	34	55	89	5, 83	.78719	61.41**	2, 83	.78548	.333
	5	9	95	104	5, 98	.71934	50.24**	2, 98	.68682	5.678**
	6	5	47	52	5, 46	.71057	22.59**	2, 46	.55167	12.627**
CTBS - Vocabulary	2	32	77	109	5, 103	.61667	33.14**	2, 103	.61568	.133
	3	41	102	143	5, 137	.69846	63.47**	2, 137	.69322	1.190
	4	34	56	90	5, 84	.73088	45.63**	2, 84	.71885	1.877
	5	9	96	105	5, 99	.71019	48.52**	2, 99	.67519	5.978**
	6	5	48	53	5, 47	.70254	22.20**	2, 47	.54478	12.463**
CTBS - Mathematics Computation	2	32	81	113	5, 107	.29479	8.95**	2, 107	.29476	.002
	3	41	103	144	5, 138	.59270	40.16**	2, 138	.58302	1.640
	4	34	59	93	5, 87	.63800	30.67**	2, 87	.59990	4.578*
	5	8	98	106	5, 100	.35673	11.09**	2, 100	.31462	3.273*
	6	5	47	52	5, 46	.64925	17.03**	2, 46	.62622	1.510
Attitude Toward School	2	28	74	102	5, 96	.19973	4.79**	2, 96	.19891	.049
	3	40	106	146	5, 140	.17774	6.06**	2, 140	.14711	2.608
	4	35	59	94	5, 88	.18969	4.12**	2, 88	.16700	1.232
	5	7	98	105	5, 99	.12141	2.74*	2, 99	.11312	.467
	6	5	46	51	5, 45	.28066	3.51**	2, 45	.26835	.385

Legend: * $p \leq .05$; ** $p \leq .01$

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BIBLIOGRAPHY

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EVALUATION OF THE TITLE VII SPANISH/ENGLISH BILINGUAL PROGRAM – IMPACT STUDY
Conducted by the American Institutes for Research
Under Contract to the U.S. Office of Education

Office of Management and Budget
No. 51-S75056
Approval expires July 1976

CUESTIONARIO PARA EL ESTUDIANTE (B)

SI ÉSTE NO ES
TU NOMBRE ➡
LEVANTA LA MANO.

NO ESCRIBAS DE AQUÍ ABAJO.

○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
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○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○

YO SOY: ○ UN MUCHACHO ○ UNA MUCHACHA

NACÍ EL ______________________________
DÍA MES AÑO

LAS INSTRUCCIONES

Antes de contestar a las preguntas en las páginas siguientes, por favor:

1. Estés seguro de usar un lápiz #2 para marcar tus respuestas.
2. Marca el círculo enfrente de cada una de tus respuestas.
3. Si quieres cambiar alguna respuesta, debes borrarla completamente.
4. No hagas otras marcas en este cuestionario.

505

(VOLTEA LA PÁGINA)

Prepared and Processed by American Survey Research Corp., 7851 Metro Parkway, Minneapolis, Minn. 55420 ASR A103B-54321

Por favor, conteste a las siguientes preguntas marcando el círculo de la respuesta que te parece mejor. Responde a toda las preguntas.

EJEMPLO A:

¿Ha viajado usted a España?

○ sí
○ no

Si usted fué a España, debería marcar el círculo frente a la respuesta "sí".

● sí
○ no

Si usted no ha ido a España, debería marcar el círculo frente a la respuesta "no".

○ sí
● no

EJEMPLO B:

¿Ha viajado en avion?

○ sí
○ no

Si usted ha viajado en avion, debería marcar el círculo frente a la respuesta "si".

● sí
○ no

Si usted nunca ha viajado en avion, debería marcar el círculo frente a la respuesta "no".

○ sí
● no

---

1. El idioma que yo hablo mejor es
○ español
○ inglés
○ español e inglés igualmente bien
○ otro idioma. . . .cuál?

____

2. Pienso que soy buen estudiante
○ sí
○ no
○ no sé

3. Me gusta hablar español
○ mucho
○ un poco
○ no mucho
○ no me gusta para nada
○ no hablo español

4. Me gusta hablar inglés
○ mucho
○ un poco
○ no mucho
○ no me gusta para nada
○ no hablo inglés

5. Me gustan canciones, bailes y actos en español
○ mucho
○ un poco
○ no mucho
○ no me gustan para nada
○ no hacemos canciones, bailes y actos en español

6. Me gustan canciones, bailes y actos en inglés
○ mucho
○ un poco
○ no mucho
○ no me gustan para nada
○ no hacemos canciones, bailes, y actos en inglés

7. Me gusta leer en español
○ mucho
○ un poco
○ no mucho
○ no me gusta para nada
○ no puedo leer en español

8. Me gusta leer en inglés
○ mucho
○ un poco
○ no mucho
○ no me gusta para nada
○ no puedo leer en inglés

9. ¿Puedes entender español?
○ Sí, muy bien
○ Sí, más o menos
○ No puedo entender español

10. ¿Puedes hablar español?
○ Sí, muy bien
○ Sí, más o menos
○ No puedo hablar español

11. ¿Puedes entender inglés?
○ Sí, muy bien
○ Sí, más o menos
○ No puedo entender inglés

12. ¿Puedes hablar inglés?
○ Sí, muy bien
○ Sí, más o menos
○ No puedo hablar inglés

13. ¿Piensas que la mayoría de tus compañeros te quieren?
○ sí
○ no
○ no sé

14. ¿Cómo te gusta la escuela?
○ mucho
○ está bien
○ no mucho
○ no me gusta para nada

15. ¿Cómo te gusta aprender el español?
○ mucho
○ está bien
○ no mucho
○ no me gusta para nada
○ no estoy aprendiendo español

16. ¿Cómo te gusta aprender el inglés?
○ mucho
○ está bien
○ no mucho
○ no me gusta para nada
○ no estoy aprendiendo inglés

17. Para mi es fácil hacer amigos (amigas).
○ sí
○ no
○ a veces

18. Mi maestra piensa que yo
○ soy un buen estudiante
○ soy un estudiante de promedio
○ no soy buen estudiante

19. Mis padres quieren que yo sea un buen estudiante.
○ sí
○ no les importa
○ no sé

20. ¿Con cuánta frequencia hablas con tus padres acerca de tu trabajo en la escuela?
○ casi todos los días
○ una o dos veces por la semana
○ casi nunca

21. ¿Es importante para tus padres que aprendas español?
○ muy importante
○ importante
○ no muy importante
○ no les importa

22. ¿Es importante para tus padres que aprendas inglés?
○ muy importante
○ importante
○ no muy importante
○ no les importa

CUESTIONARIO PARA EL ESTUDIANTE

INSTRUCCIONES:

Estimado alumno,

Queremos saber lo que tu piensas acerca de las siguientes preguntas. Favor de marcar con una "X" la cara que se parece como tu te sientes.

☺ **La cara sonriente quiere decir que te hace sentir contento, bien.**

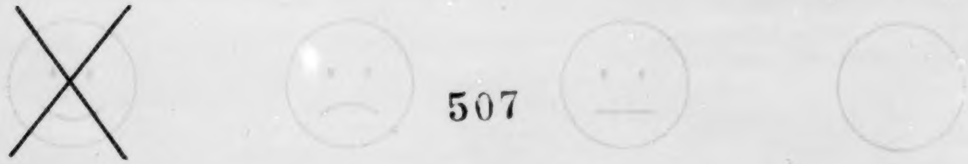
☹ **La cara fruncida quiere decir que te hace sentir mal, triste.**

😐 **La cara con la boca recta quiere decir que no te importa -- que no te hace sentir ni contento ni triste, ni bien ni mal.**

○ **La cara sin boca y sin ojos es para esas preguntas que no tienen nada que ver contigo.**

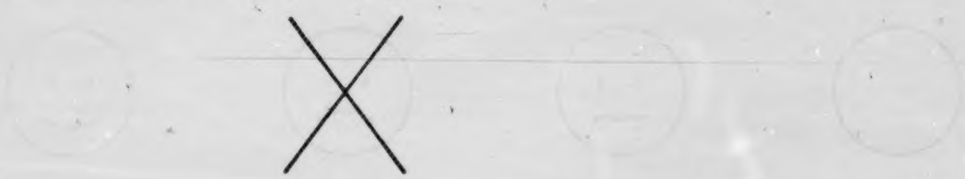
EJEMPLOS:

A. Cuando alguien me da dulces, me siento



Si te sientes contento cuando alguien te da dulces, marca la cara sonriente con una "X".

B. Cuando me duele el estómago, me siento



Si te sientes mal cuando te duele el estómago, marca la cara fruncida con una "X".

C. Cuando me lavo las manos, me siento

Si no te importa como te sientes, ni contento ni triste cuando te lavas las manos, entonces haces una "X" en la cara con la boca recta.

D. Cuando estoy aprendiendo alemán, me siento

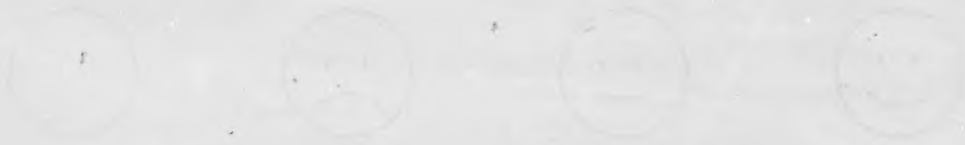
Si no estas aprendiendo alemán, entonces esta pregunta no tiene nada que ver contigo, y debes marcar la cara sin boca y sin ojos.

Acuérdate de marcar solamenta una cara.

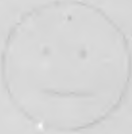
---

1. Cuando voy por ayuda a la ayudante de la maestra, me siento

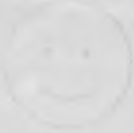
2. Cuando pienso en la ayudante de la maestra, me siento

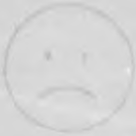


3. Cuando estudio acerca de la gente que habla español, me siento

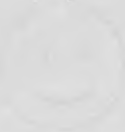
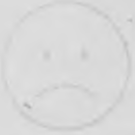
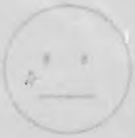


4. Cuando estudio acerca de la gente que habla inglés, me siento

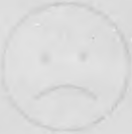
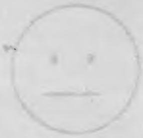
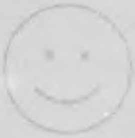




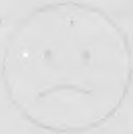
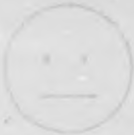
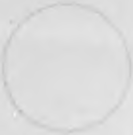
5. Cuando uno de mis compañeros me pide ayuda con su trabajo, me siento

6. Cuando yo le pido ayuda a uno de mis compañeros, me siento

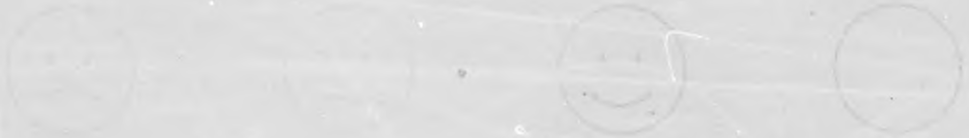




7. Cuando estoy en casa, me siento

8. Cuando estoy en la escuela en la clase, me siento

9. Cuando estoy en la escuela en recreo, me siento

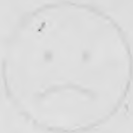
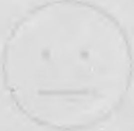


10. Cuando estoy con compañeros que solamente hablan español, me siento

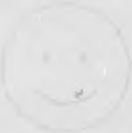
11. Cuando estoy con compañeros que solamente hablan inglés, me siento

12. Cuando estoy con compañeros que hablan inglés e español, me siento

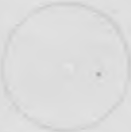
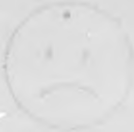
13. En la escuela cuando hablo español, me siento

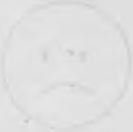
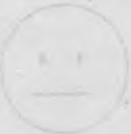
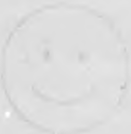
14. En la escuela cuando hablo inglés, me siento



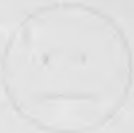
15. En casa cuando hablo español con mi familia, me siento

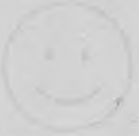
16. En casa cuando hablo inglés con mi familia, me siento

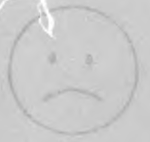




17. Cuando la maestra me habla en español, me siento

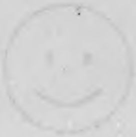
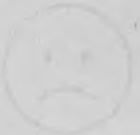
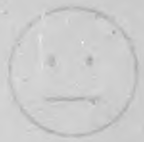


18. Cuando la maestra me habla en inglés, me siento



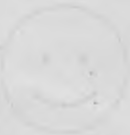


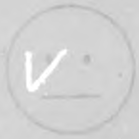
19. Cuando la ayudante de la maestra me habla en español, me siento

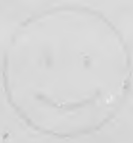
20. Cuando la ayudante de la maestra me habla en inglés, me siento

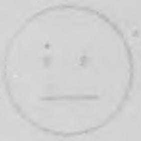
21. Cuando estoy en la clase trabajando con un grupo, me siento





22. Cuando estoy en las clase trabajando solo, me siento





EVALUATION OF THE TITLE VII SPANISH/ENGLISH BILINGUAL PROGRAM — IMPACT STUDY
Conducted by the American Institutes for Research
Under contract to the U.S. Office of Education

Office of Management and Budget
No. 51-S75056
Approval expires July, 1976

STUDENT QUESTIONNAIRE

(to be completed by the teacher)

USE THIS FORM WITH THIS STUDENT ONLY ➡

ATTACH LABEL HERE

FOR A.I.R. USE ONLY

⓪⓪⓪⓪⓪⓪
①①①①①①
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⑧⑧⑧⑧⑧⑧
⑨⑨⑨⑨⑨⑨

Dear Teacher:

This questionnaire is designed to obtain information regarding the students in your class which will help us to assess the benefits of bilingual Title VII education projects. For this reason we would like you to answer all the questions, bearing in mind that your answers are completely confidential and will only be used for purposes of the study we are conducting. Only staff of the Bilingual Studies Center at the American Institutes for Research will have access to the individual responses. Answers will not be identified by specific individual in any reports to the U.S. Office of Education or to the schools.

INSTRUCTIONS:

Please answer all the questions on this questionnaire as follows:

1. Use a black lead pencil to mark your answers.
2. Please erase completely if you wish to change an answer.
3. Each question has several possible answers. Choose the answer which is right for this child and blacken the circle in front of the answer you choose. Read all the possible answers carefully before choosing your response.
4. Do not write in this folder except in the designated spaces.

EXAMPLE:

Has this child ever been to Spain?

● Yes
○ No

If the child has been to Spain, you will have blackened the circle in front of "yes" as shown.

1. How old is this child?

○ 5 or younger
○ 6
○ 7
○ 8
○ 9
○ 10 or older

2. This child is:

○ of Central American descent
○ of Cuban descent
○ of Mexican descent
○ of Puerto Rican descent
○ of South American descent
○ of Spanish (from Spain) descent
○ White, other than the above
○ American Indian
○ Asian
○ Black, Negro, or Afro-American other than above
○ Other

3. This child is a

○ monolingual English speaker
○ monolingual Spanish speaker
○ bilingual English and Spanish speaker
○ bilingual English and other language speaker
○ bilingual Spanish and other language speaker

4. This child's dominant language is

○ Spanish
○ English
○ Other (specify:____________________________)

5. What is the probable level of education of the child's mother (or female head of household)?

○ grade school
○ high school
○ college
○ doesn't currently have female head of household
○ no information available

6. What kind of work does the child's father (or male head of household) do? Check the job that comes closest.

- ○ WORKMAN OR LABORER – such as farm worker, maid, gas station attendant, waiter or waitress, factory worker, gardener
- ○ SERVICE WORKER OR MACHINE OPERATOR – such as policeman, stewardess, cook, bus driver, mailman, longshoreman, welder, miner, enlisted man
- ○ SKILLED CRAFTSMAN OR FOREMAN – such as plumber, carpenter, electrician, army sergeant, seamstress, telephone operator, factory foreman, ranch foreman, draftsman
- ○ OFFICE WORKER OR SALES CLERK – such as bookkeeper, secretary, stock clerk, bank teller, storekeeper, salesman
- ○ MANAGER OR BUSINESS OWNER – such as store or office manager, banker, military officer, real estate salesman, insurance salesman, government official, factory owner
- ○ PROFESSIONAL – such as lawyer, doctor, registered nurse, dentist, teacher, engineer, social worker, chemist, architect
- ○ the father (or head of household) doesn't work
- ○ no information available.

7. What is the probable level of education of the child's father (or male head of household)?

- ○ grade school
- ○ high school
- ○ college
- ○ doesn't currently have a male head of household
- ○ no information available

8. What kind of work does the child's mother (or female head of household) do? Check the job that comes closest.

- ○ WORKMAN OR LABORER – such as farm worker, maid, gas station attendant, waiter or waitress, factory worker, gardener
- ○ SERVICE WORKER OR MACHINE OPERATOR – such as policeman, stewardess, cook, bus driver, mailman, longshoreman, welder, miner, enlisted man
- ○ SKILLED CRAFTSMAN OR FOREMAN – such as plumber, carpenter, electrician, army sergeant, seamstress, telephone operator, factory foreman, ranch foreman, draftsman
- ○ OFFICE WORKER OR SALES CLERK – such as bookkeeper, secretary, stock clerk, bank teller, storekeeper, salesman
- ○ MANAGER OR BUSINESS OWNER – such as store or office manager, banker, military officer, real estate salesman, insurance salesman, government official, factory owner
- ○ PROFESSIONAL – such as lawyer, doctor, registered nurse, dentist, teacher, engineer, social worker, chemist, architect
- ○ the mother (or female head of household) doesn't work
- ○ no information available

9. In my opinion, most of the time this child gets along well with children of differing ethnic or racial backgrounds:

- ○ very well
- ○ well
- ○ not very well
- ○ unable to say

10. In my opinion, this child's desire to learn is

- ○ better than average
- ○ average
- ○ below average
- ○ can't say

11. How much formal education do you expect this child to complete?

- ○ some high school
- ○ high school
- ○ some college
- ○ college
- ○ I can't say

12. In my opinion, this child likes to associate mostly with those children who are:

- ○ monolingual English
- ○ monolingual Spanish
- ○ bilingual English and Spanish
- ○ bilingual English and other
- ○ makes no distinction

13. In my opinion, this child relates well with the adults in the classroom.

- ○ Strongly agree
- ○ Agree
- ○ Disagree
- ○ Strongly disagree
- ○ Don't know

14. This child has been involved in bilingual education classes for

- ○ 1 year or less
- ○ 2 years
- ○ 3 years
- ○ 4 years
- ○ 5 years
- ○ 6 years or more
- ○ I don't know

15. This child was admitted to the bilingual program primarily because of: (check one)

- ○ his/her Spanish surname
- ○ his/her need for English instruction (limited proficiency in English)
- ○ his/her parents requested that he/she be in the program
- ○ his/her bilingualism
- ○ other. Specify: ____________________

____

ADVISORY COMMITTEE QUESTIONNAIRE

CUESTIONARIO PARA EL COMITÉ CONSEJERO

This is a bilingual form; please choose only one language in which to respond.	Esta forma es bilingüe; por favor escoga solamente un idioma para responder.

FOR A.I.R. USE ONLY

Dear Advisory Committee Member:

This questionnaire is designed to obtain information which will help us to improve the quality of bilingual education. For this reason, we would like you to answer all the questions presented here. When you have finished, please put the questionnaire in the envelope which we have provided and mail it to us. Your answers are completely confidential and will only be used for purposes of the study we are conducting. Only staff of the Bilingual Studies Center at the American Institutes for Research will have access to the individual responses. Answers will not be identified by specific individual in any report to the U.S. Office of Education or to the schools.

Estimado Miembro:

Este cuestionario tiene por objeto obtener información que pueda ayudarnos a mejorar el nivel de la educación bilingüe. Por esta razón, es importante que usted conteste a todas las preguntas de este cuestionario. Cuando termine, haga el favor de poner el cuestionario en el sobre que le incluimos y enviárnoslo por correo. Sus respuestas son confidenciales, y solamente serán utilizadas para fines de este estudio. Unicamente el personal del Centro de Estudios Bilingües del American Institutes for Research tendrá acceso a las respuestas. Respuestas no serán identificadas individualmente en ningun informe que será enviado ni a la Oficina de Educación ni a las escuelas.

INSTRUCCIONES:

Favor de enviar este cuestionario por correo en el sobre adjunto. Usted no debe despegar la etiqueta que tiene el número de identificación. Este número es confidencial y será usado solamente para relacionar la información que usted provea en este cuestionario con aquella obtenida en la escuela. Solamente un número limitado del personal de AIR responsable del estudio tendrá acceso a este número. Ninguna persona ni en las escuelas ni en ninguna otra institución tendrá acceso a esta información. Una vez que el estudio sea completado, AIR destruirá toda referencia a la conexión entre los nombres de los alumnos y la información recolectada.

Por favor, conteste a todas las preguntas de este cuestionario de la siguiente manera:

1. Use un lápiz para marcar sus respuestas.
2. Por favor, tenga la bondad de borrar completamente su respuesta en caso de que usted quiera cambiarla.
3. Cada pregunta tiene varias respuestas. Usted debe escoger una de estas respuestas, la que mejor le convenga, y debe marcar una X en el círculo colocado frente a la respuesta que ha elegido. Ninguna respuesta es correcta o incorrecta, de manera que usted debe escoger la respuesta que mejor le convenga. Antes de elegir una respuesta, lea cuidadosamente todas las posibles respuestas a esa pregunta.

EJEMPLO:

¿Ha vivido usted en otro país?

○...si
○...no

Si usted vivió en otro país, debería marcar una X en el círculo frente a la respuesta "si".

○...si
○...no

Si usted no ha vivido en otro país, debería marcar una X en el círculo frente a la respuesta "no".

○...si
○...no

INSTRUCTIONS:

Please mail this questionnaire directly to AIR in the self-addressed envelope provided. The number on the label (please do not remove it) is a confidential identification number that AIR will use to link the information you are providing with other information collected by the study. No one in the schools or in the U.S. Government will have access to your responses. When the study is completed AIR will destroy the link between all names and information.

Please answer all the questions on this questionnaire as follows:

1. Use a pencil to mark your answers.
2. Please erase completely if you wish to change an answer.
3. Each question has several possible answers. Choose the answer which is right for you and place an X in the circle in front of the answer you choose. No answer is right or wrong, so please choose the answer which is best for you. Read all the possible answers carefully before choosing your response.

EXAMPLE:

Have you lived in another country?

○...yes
○...no

If you have lived in another country, you should have placed an X in the circle in front of "yes".

○...yes
○...no

If you have not lived in another country, you should have placed an X in the circle in front of "no".

○...yes
○...no

1. ¿Es usted la madre, el padre, u otro pariente de un niño en el programa bilingüe?

○...sí
○...no

2. ¿Es usted empleado del programa bilingüe?

○...sí
○...no

3. Como un miembro del comité consejero, ¿representa usted una organización en la comunidad?

○...sí
○...no

4. ¿Como fué usted elegido para participar en el comité consejero?

○...fuí nombrado por un grupo en la comunidad
○...fuí nombrado por personal de la escuela
○...enlisté como voluntario
...otro (explique, por favor ____________
____)

5. ¿Qué idioma habla la mayoria de la gente en el país donde nació usted?

○...inglés
○...español
○...otro idioma

6. ¿Qué grados en la escuela ha completado usted?

○...un poco de primaria
○...me gradué de primaria
○...un poco de secundaria
○...me gradué de secundaria
○...un poco de universidad
○...me gradué de universidad
○...un poco de escuela vocacional
○...me gradué de escuela vocacional

7. ¿Puede usted entender español?

○...sí, muy bien
○...sí, más o menos
○...no, no puedo

1. Are you the mother, father or other relative of a child in the bilingual program?

○...yes
○...no

2. Do you work in the bilingual program?

○...yes
○...no

3. As a member of the advisory committee, do you represent a specific community organization?

○...yes
○...no

4. How were you chosen to participate on the advisory committee?

○...I was nominated by a community group
○...I was nominated by school staff members
○...I volunteered
○...other (please explain________________
____)

5. What language is spoken by most of the people in the country where you were born?

○...English
○...Spanish
○...another language

6. What grade in school have you completed?

○...some elementary school
○...I graduated from elementary school
○...some high school
○...I graduated from high school
○...some college
○...I graduated from college
○...some vocational school
○...I graduated from vocational school

7. Can you understand Spanish?

○...yes, very well
○...yes, more or less
○...no, I can't

8. ¿Puede usted hablar español?	8. Can you speak Spanish?
○...sí, muy bien	○...yes, very well
○...si, más o menos	○...yes, more or less
○...no, no puedo	○...no, I can't
9. ¿Puede usted entender inglés?	9. Can you understand English?
○...si, muy bien	○...yes, very well
○...sí, más o menos	○...yes, more or less
○...no, no puedo	○...no, I can't
10. ¿Puede usted hablar inglés?	10. Can you speak English?
○...sí, muy bien	○...yes, very well
○...si, más o menos	○...yes, more or less
○...no, no puedo	○...no, I can't
11. En su casa, ¿cuál idioma se habla más?	11. In your house, which language is used most?
○...solamente español	○...only Spanish
○...español más que inglés	○...Spanish more than English
○...español igual que inglés	○...Spanish and English equally
○...inglés más que español	○...English more than Spanish
○...solamente inglés	○...only English
12. En su barrio, ¿cuál idioma se habla más?	12. In your neighborhood, which language is used most?
○...solamente español	○...only Spanish
○...español más que inglés	○...Spanish more than English
○...español igual que inglés	○...Spanish and English equally
○...inglés más que español	○...English more than Spanish
○...solamente inglés	○...only English
13. Con sus hijos, ¿cuál idioma habla usted más?	13. With your children, which language do you use most?
○...solamente español	○...only Spanish
○...español más que inglés	○...Spanish more than English
○...español igual que inglés	○...Spanish and English equally
○...inglés más que español	○...English more than Spanish
○...solamente inglés	○...only English
○...no tengo hijos	○...I don't have children

14. Con usted, ¿cuál idioma hablan más sus hijos?

○...solamente español
○...español más que inglés
○...español igual que inglés
○...inglés más que español
○...solamente inglés
○...no tengo hijos

15. El año pasado, ¿cuántas veces visitó usted la escuela para ayudar en la clase, o para asistir a reuniones, o para hablar con personal de la escuela?

○...nunca
○...una vez o dos veces
○...tres o cuatro veces
○...cinco o más veces
○...no estaba aquí el año pasado

16. En la escuela, los niños en el programa bilingüe están aprendiendo a leer

○...solamente en inglés
○...solamente en español
○...en español y en inglés
○...no sé

17. Los niños en el programa bilingüe están estudiando matemáticas

○...solamente en inglés
○...solamente en español
○...en español y en inglés
○...no sé

18. Los niños en el programa bilingüe están estudianto arte, música y baile

○...solamente en inglés
○...solamente en español
○...en español y en inglés
○...no sé
○...los niños no reciben instrucción en arte, música, ni baile

14. Which language do your children use most with you?

○...only Spanish
○...Spanish more than English
○...Spanish and English equally
○...English more than Spanish
○...only English
○...I don't have children

15. Last year, how many times did you visit the school to help in a classroom, to attend a meeting, or to talk with school staff members?

○...never
○...once or twice
○...three or four times
○...five or more times
○...I wasn't here last year

16. Children in the bilingual program are learning to read

○...only in English
○...only in Spanish
○...in English and Spanish
○...I don't know

17. Children in the bilingual program are studying math

○...only in English
○...only in Spanish
○...in English and Spanish
○...I don't know

18. Children in the bilingual program are studying art, music and dance

○...only in English
○...only in Spanish
○...in English and Spanish
○...I don't know
○...children are not studying art, music, or dance

19. El comité consejero recibe informacion adecuada acerca de lo que sucede en el proyecto bilingüe

○...siempre
○...casi siempre
○...a veces
○...rara vez
○...nunca

20. El comité consejero hace sugerencias y da ideas para solucionar problemas que se presentan en el proyecto bilingüe

○...siempre
○...casi siempre
○...a veces
○...rara vez
○...nunca

21. La administracion del programa bilingüe pone en ejecucion las sugerencias del comité consejero

○...siempre
○...casi siempre
○...a veces
○...rara vez
○...nunca

22. ¿Trae la comunidad preguntas y problemas sobre la educación bilingüe al comité consejero?

○...siempre
○...casi siempre
○...a veces
○...rara vez
○...nunca

23. En mi opinión, los miembros del comité consejero representan las ideas y deseos de la mayoría de los padres de familia de la comunidad.

○...estoy muy de acuerdo
○...estoy de acuerdo
○...me es indiferente
○...estoy en desacuerdo
○...estoy muy en desacuerdo

19. The advisory committee receives adequate information about the bilingual program

○...always
○...almost always
○...sometimes
○...rarely
○...never

20. The advisory committee makes suggestions to solve problems related to the bilingual education project

○...always
○...almost always
○...sometimes
○...rarely
○...never

21. The bilingual program administration implements suggestions made by the advisory committee

○...always
○...almost always
○...sometimes
○...rarely
○...never

22. The community brings problems and questions about the bilingual education project to the advisory committee

○...always
○...almost always
○...sometimes
○...rarely
○...never

23. In my opinion, advisory committee members represent the ideas of the majority of parents in the community

○...strongly agree
○...agree
○...no opinion
○...disagree
○...strongly disagree

24. En mi opinión, la participacion de los miembros del comité consejero en planificación del proyecto bilingüe fué

○...muy grande
○...grande
○...regular
○...poca
○...muy poca
○...los miembros del comité no participaron

25. En mi opinión, la participación del comité consejero en la ejecución de este programa ha sido

○...muy grande
○...grande
○...regular
○...poca
○...muy poca
○...los miembros del comité no participaron

26. En mi opinión, la participación del comité consejero en la evaluación de este programa ha sido

○...muy grande
○...grande
○...regular
○...poca
○...muy poca
○...los miembros del comité no participaron

27. En mi opinión, la participación del comité consejero en la acción para conseguir apoyo para el proyecto bilingüe ha sido

○...muy grande
○...grande
○...regular
○...poco
○...muy poco
○...los miembros del comité no participaron

24. In my opinion, advisory committee participation in planning the bilingual project was

○...very high
○...high
○...average
○...low
○...very low
○...committee members didn't participate

25. In my opinion, advisory committee participation in carrying out this program has been

○...very high
○...high
○...average
○...low
○...very low
○...committee members didn't participate

26. In my opinion, advisory committee participation in evaluating this program has been

○...very high
○...high
○...average
○...low
○...very low
○...committee members didn't participate

27. In my opinion, advisory committee participation in securing community support for this bilingual program has been

○...very high
○...high
○...average
○...low
○...very low
○...committee members didn't participate

28. En mi opinión, es importante que la maestra enseñe lectura

○...solamente en español
○...en español mas que en inglés
○...en español igual que en inglés
○...en inglés mas que en español
○...solamente en inglés

29. En mi opinión, es importante que la maestra enseñe arte, música y bailes

○...solamente en español
○...en español más que en inglés
○...en español igual que en inglés
○...en inglés más que en español
○...solamente en inglés

30. En mi opinión, es importante que la maestra enseñe matemáticas

○...solamente en español
○...en español más que en inglés
○...en español igual que en inglés
○...en inglés más que en español
○...solamente en inglés

31. En mi opinión, la educación bilingüe en nuestro distrito es

○...muy buena
○...buena
○...regular
○...mala
○...muy mala
○...no sé
○...no existe

28. In my opinion, it is important that the teacher teach reading

○...only in Spanish
○...in Spanish more than in English
○...in English and Spanish equally
○...in English more than in Spanish
○...only in English

29. In my opinion, it is important that the teacher teach art, music and dance

○...only in Spanish
○...in Spanish more than in English
○...in English and Spanish equally
○...in English more than in Spanish
○...only in English

30. In my opinion, it is important that the teacher teach math

○...only in Spanish
○...in Spanish more than in English
○...in English and Spanish equally
○...in English more than in Spanish
○...only in English

31. In my opinion, bilingual education in our district is

○...very good
○...good
○...average
○...poor
○...very poor
○...I don't know
○...it doesn't exist

EVALUATION OF THE TITLE VII SPANISH/ENGLISH BILINGUAL PROGRAM — IMPACT STUDY
Conducted by the American Institutes for Research
Under contract to the U.S. Office of Education

Office of Management and Budget
No. 51-S75056
Approval expires July, 1976

TEACHER/TEACHER AIDE QUESTIONNAIRE

(to be completed by teacher/teacher aide)

This is a bilingual form; please choose only one language in which to respond.

Esta forma es bilingüe; por favor escoga solamente un idioma para responder.

FOR A.I.R. USE ONLY

⓪	⓪	⓪	⓪	⓪	⓪
①	①	①	①	①	①
②	②	②	②	②	②
③	③	③	③	③	③
④	④	④	④	④	④
⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨

Dear Teacher/Teacher Aide:

This questionnaire is designed to obtain information which will help us to assess the benefits of bilingual Title VII educational projects. For this reason, we would like you to answer all the questions, bearing in mind that your answers are completely confidential and will only be used for purposes of the study. Only staff of the Bilingual Study Center at the American Institutes for Research will have access to the individual responses. Answers will not be identified by specific individual in any report to the U.S. Office of Education or to the schools.

Estimado Maestro y Asistente:

Este cuestionario tiene por objeto obtener información que pueda ayudarnos a mejorar el nivel de la educación bilingüe. Por esta razón, es importante que usted conteste a todas las preguntas de este cuestionario. Sus respuestas son confidenciales, y solamente serán utilizadas para fines de este estudio. Unicamente el personal del Centro de Estudios Bilingües del American Institutes for Research tendrá acceso a las respuestas. Las respuestas no serán identificadas individualmente en ningún informe enviado ni a la Oficina de Educación ni a las escuelas.

Por favor de marcar con X:

Soy maestro_____ Maestro Asistente_____

Please check:

I am a teacher_____ Teacher Aide_____

INSTRUCTIONS:

When you complete this questionnaire, please enclose it in the self-addressed stamped envelope provided and mail to AIR.

Please answer all the questions on this questionnaire as follows:

1. Use a pencil to mark your answers.
2. Please erase completely if you wish to change an answer.
3. Each question has several possible answers. Choose the answer which is right for you and fill in the circle in front of the answer you choose. No answer is right or wrong, so please choose the answer which is best for you. Read all the possible answers carefully before choosing your response.

EXAMPLE:

Have you ever lived in another country?

○...yes

○...no

If you have ever lived in another country, you should have filled in the circle in front of "yes". If you have never lived in another country, you should have filled in the circle in front of "no".

INSTRUCCIONES:

Cuando usted termine de llenar este cuestionario, por favor envíelo por correo en el sobre adjunto que lleva la dirección de AIR.

Por favor, conteste a todas las preguntas de este cuestionario de la siguiente manera:

1. Use un lápiz para marcar sus respuestas.
2. Por favor, tenga la bondad de borrar completamente su respuesta en caso de que usted quiera cambiarla.
3. Cada pregunta tiene varias respuestas. Usted debe escoger una de estas respuestas, la que mejor le convenga, y debe marcar una X en medio del círculo colocado enfrente de la respuesta que ha elegido. Ninguna respuesta es correcta o incorrecta, de manera que usted debe escoger la respuesta que mejor le convenga. Antes de elegir una respuesta, lea cuidadosamente todas las posibles respuestas a esa pregunta.

EJEMPLO:

¿Ha vivido usted en otro país?

○...sí
○...no

Si usted ha vivido en otro país, debería de haber marcado con una X en el círculo enfrente de la respuesta "sí". Si usted no ha vivido en otro país debería de haber marcado con una X en el círculo enfrente de la respuesta "no".

TEACHER/TEACHER AIDE QUESTIONNAIRE

---

1. In your house, which language is used most?

○...only Spanish
○...Spanish more than English
○...Spanish and English equally
○...English more than Spanish
○...only English

2. With your children, which language do you use most?

○...only Spanish
○...Spanish more than English
○...Spanish and English equally
○...English more than Spanish
○...only English
○...I have no children

3. What language do your children use most with you?

○...only Spanish
○...Spanish more than English
○...Spanish and English equally
○...English more than Spanish
○...only English
○...I have no children

4. What language do you use with your bilingual friends?

○...only Spanish
○...Spanish more than English
○...Spanish and English equally
○...English more than Spanish
○...only English

CUESTIONARIO PARA LOS MAESTROS Y MAESTROS ASISTENTES

1. En su casa, ¿Qué idioma se habla más?

○...solamente español
○...español más que inglés
○...español igual que inglés
○...inglés más que español
○...solamente inglés

2. Con sus hijos, ¿Qué idioma habla usted más?

○...solamente español
○...español más que inglés
○...español igual que inglés
○...inglés más que español
○...solamente inglés
○...no tengo hijos

3. Con usted, ¿Qué idioma hablan más sus hijos?

○...solamente español
○...español más que inglés
○...español igual que inglés
○...inglés más que español
○...solamente inglés
○...no tengo hijos

4. ¿Qué idioma usa usted más amenudo para comunicarse con sus amigos bilingües?

○...solamente español
○...español más que inglés
○...español igual que inglés
○...inglés más que español
○...solamente inglés

5. What language do you use with your bilingual students?

○...only Spanish

○...Spanish more than English

○...Spanish and English equally

○...English more than Spanish

○...only English

6. What is the highest earned college degree you hold?

○...No degree

○...A degree or diploma based on less than 4 years of work

○...B.A. or B.S.

○...Teaching credential

○...M.A. or higher

7. What type of state teaching credential do you hold? (Choose one.)

○...Non-credentialed

○...Temporary, provisional, partial-fulfillment, or emergency credential

○...Regular credential

○...Bilingual-bicultural teaching credential

8. How many years of full-time teaching experience have you had?

○...less than 1 year

○...1 year

○...2 years

○...3 years

○...4 years

○...5-9 years

○...10-19 years

○...20-29 years

○...30 or more years

9. Do you reside within the attendance area or neighborhood of the school in which you teach?

○...yes

○...no

5. ¿Qué idioma usa usted con sus estudiantes bilingües?

○...solamente español

○...español más que inglés

○...español igual que inglés

○...inglés más que español

○...solamente inglés

6. ¿Cuál es el título académico más avanzado que usted tiene?

○...no tengo título

○...un título que requiere menos de 4 años de estudio

○...B.A. o B.S.

○...credencial de enseñanza

○...M.A. o más avanzado

7. ¿Qué tipo de credencial de enseñanza tiene usted? (Escoja solamente una respues

○...no tengo credencial

○...credencial provisional, temporario o de emergencia

○...credencial regular

○...credencial bilingue-bicultural

8. ¿Cuántos años de experencia en la enseñanza tiene usted?

○...menos de un año

○...1 año

○...2 años

○...3 años

○...4 años

○...5-9 años

○...10-19 años

○...20-29 años

○...30 o más

9. ¿Vive usted en el barrio de la escuela en que usted trabaja?

○...sí

○...no

10. Are you

○...of Central American descent
○...of Cuban descent
○...of Mexican descent
○...of Puerto Rican descent
○...of South American descent
○...of Spanish (from Spain) descent
○...White other than the above
○...American Indian
○...Asian
○...Black, Negro, or Afro-American other than the above
...Other

11. What language do the majority of the people speak in the country where you were born?

○...English
○...Spanish
○...Another language

12. Where is the high school from which you graduated?

○...in this state
○...in another state in the United States
○...in a Spanish speaking country
○...in another county, NOT Spanish speaking
○...I did not graduate from high school

13. How many years of schooling did your father complete?

○...some elementary school
○...graduated from elementary school
○...some high school
○...graduated from high school
○...some college
○...graduated from college
○...some vocational school
○...graduated from vocational school
○...I don't know

10. Es usted de descendencia

○...centroamericana
○...cubana
○...mexicana
○...puertorriqueña
○...sudamericana
○...española
○...de la raza blanca, pero no de descendencia mencionada anteriormente
○...de los indios nativos de los estados unidos
○...de la raza asiática
○ ..de la raza negra, Afro-Americana, pero no de descendencia mencionada anteriormente
○...otra no mencionada anteriormente

11. ¿Qué idioma habla la mayoría de la gente en el país donde nació usted?

○...inglés
○...español
○...otra idioma

12. ¿Dónde está situada la escuela secundaria de la que usted se graduó?

○...en este estado
○...en otro estado de la Unión
○...en un país donde el idioma oficial es el español
○...en un país donde el idioma oficial no es el español
○...no me gradué de escuela secundaria

13. ¿Cuántos años de escuela ha completado su padre?

○...un poco de primaria
○...se graduó de primaria
○...un poco de secundaria
○...se graduó de secundaria
○...un poco de universidad
○...se graduó de universidad
○...un poco de escuela vocacional
○...se graduó de escuela vocacional
○...no lo sé

14. How many years of schooling did your mother complete?

○... some elementary school

○...graduated from elementary school

○...some high school

○...graduated from high school

○... some college

○...graduated from college

○...some vocational school

○...graduated from vocational school

○...I don't know

15. What kind of work does (or did) your father do?

○...WORKMAN OR LABORER - such as farm worker, gas station attendant, waiter, gardener, factory worker

○...SERVICE WORKER OR MACHINE OPERATOR - such as policeman, cook, bus driver, mailman, longshoreman, welder, miner, enlisted man

○...SKILLED CRAFTSMAN OR FOREMAN - such as plumber, carpenter, electrician, army sergeant, tailor, telephone operator, factory foreman, ranch foreman, draftsman

○...OFFICE WORKER OR SALES CLERK - such as bookkeeper, secretary, stock clerk, bank teller, storekeeper, salesman

○...MANAGER OR BUSINESS OWNER - such as store or office manager, banker, military officer, real estate salesman, insurance salesman, government official, factory owner

○...PROFESSIONAL - such as lawyer, doctor, registered nurse, dentist, teacher, engineer, social worker, chemist, architect

○...He is (was) not employed

14. ¿Cuántos años de escuela ha completado su madre?

○...un poco de primaria

○...se graduó de primaria

○...un poco de secundaria

○...se graduó de secundaria

○...un poco de universidad

○...se graduó de universidad

○...un poco de escuela vocacional

○...se graduó de escuela vocacional

○...no lo sé

15. ¿Qué clase de trabajo hace (o hacía) su padre?

○...OBRERO O TRABAJADOR - por ejemplo, obrero en una fábrica, sirviente, ayudante de una gasolinera, mesero, jardinero, labrador

○...SERVICIO PUBLICO O MAQUINISTA- por ejemplo, policía, camarera de avión, cocinero, chofer o conductor de taxi, cartero, cargador, soldador, minero, soldado del ejército o de la marina

○...ARTESANO O CAPATAZ - por ejemplo, plomero, carpintero, electricista, sargento del ejército, sastre, telefonista capataz de fábrica o de rancho

○...EMPLEADO DE OFICINA O DE ALMACEN - por ejemplo, contador, secretaria, cajero, empleado de un banco, vendedor, tendero

○...GERENTE O DUEÑO DE NEGOCIO - por ejemplo, banquero, gerente de almacén, oficial militar, agente de bienes raíces, agente de seguros, funcionario público, dueño de fábrica

○...PROFESIONAL - por ejemplo, abogado, médico, enfermera, dentista, profesor o maestro, ingeniero, científico, arquitecto, trabajador social

○...no trabaja

○...no lo sé

16. **What kind of work does (or did) your mother do?**

○...WORKING WOMAN OR LABORER - such as farm worker, maid, gas station attendant, waitress, gardener, factory worker

○...SERVICE WORKER, MACHINE OPERATOR, OR TRADESWOMAN - such as policewoman, stewardess, cook, bus driver, mailwoman, welder, miner, enlisted woman

○...SKILLED CRAFTSMAN OR FOREMAN - such as plumber, carpenter electrician, army sergeant, seamstress, telephone operator, factory foreman, ranch foreman, draftsman

○...OFFICE WORKER OR SALES CLERK - such as bookkeeper, secretary, stock clerk, bank teller, storekeeper, saleswoman

○...MANAGER OR BUSINESS OWNER - such as store or office manager, banker, military officer, real estate saleswoman, insurance saleswoman, government official, factory owner

○...PROFESSIONAL - such as lawyer, doctor, registered nurse, dentist, teacher, engineer, social worker, chemist, architect

○...She is (was) not employed

17. In which language did you feel you were more proficient when you were a child?

○...Spanish

○...both Spanish and English

○...English

○...other

18. In which language did you feel you were more proficient when you were a teenager?

○...Spanish

○...both Spanish and English

○...English

○...other

19. In which language do you feel you are more proficient now?

○...Spanish

○...both Spanish and English

○...English

○...other

16. ¿Qué clase de trabajo hace (o hacía) su madre?

○...OBRERO O TRABAJADOR - por ejemplo, obrero en una fábrica, sirviente, ayudante de una gasolinera, mesera, jardinero, labrador

○...SERVICIO PUBLICO O MAQUINISTA- por ejemplo, policía, camerera de avión, cocinera, chofer o conductor de taxi, cartero, cargador, soldador, minero, soldado del ejército o de la marina

○...ARTESANO O CAPATAZ - por ejemplo, plomero, carpintero, electricísta, sargento del ejército, modista, telefonista, capataz en una fábrica o en un rancho, dibujante

○...EMPLEADA DE OFICINA O DE ALMACEN - por ejemplo, contador, secretaria, cajero, empleada de un banco, vendedor, tendero

○...GERENTE O DUEÑA DE NEGOCIO - por ejemplo, banquero, gerente de almacén, oficial militar, agente de bienes raices, agente de seguros, funcionario público, dueña de fábrica

○ ..PROFESIONAL - por ejemplo, abogado, médico, enfermera, dentista, profesora o maestra, ingeniero, cientifico, arquitecto, trabajadora social

○...no trabaja

○...no lo sé

17. De niñez, ¿en qué idioma cree usted que se comunicaba mejor?

○...español

○ ..ambos inglés y español

○...inglés

○...otro idioma

18. De adolescente, ¿en qué idioma cree usted que se comunicaba mejor?

○...español

○...ambos inglés y español

○...inglés

○...otro idioma

19. Ahora ¿en qué idioma cree usted que se comunica mejor?

○...español

○...ambos inglés y español

○...inglés

○...otro idioma

20. Can you understand the dialect of Spanish spoken by parents of the children in your class?

○...Yes, very well
○...Yes, more or less
○...No, I can't

21. In my opinion it is important that the students learn to read

○...only in Spanish
○...in Spanish more than English
○...in English and Spanish equally
○...in English more than Spanish
○...only in English

22. It is important for my students to become (be) bilingual in English and Spanish:

○...strongly agree
○...agree
○...uncertain
○...disagree
○...strongly disagree

23. It is important for my students to speak the variety of Spanish that is spoken in the community:

○...strongly agree
○...agree
○...uncertain
○...disagree
○...strongly disagree

24. In what kind of school would you prefer to work?

○...where there are more English speaking students
○...where the students speak English and Spanish
○...where there are more Spanish speaking students
○...I have no preference

20. ¿Puede usted entender el estilo de español que se hablan los padres de los niños en su clase?

○...sí, muy bien

○...sí, más o menos

○...no, no puedo

21. En mi opinión, es importante que los estudiantes aprendan a leer

○...solamente en español

○...en español más que en inglés

○...en español igual que en inglés

○...en inglés más que en español

○...solamente en inglés

22. Es importante que mis alumnos sean bilingües en inglés y en español.

○...estoy muy de acuerdo

○...estoy de acuerdo

○...estoy indeciso

○...estoy en desacuerdo

○...estoy muy en desacuerdo

23. Es importante que mis alumnos puedan hablar el estilo de español que se habla en la comunidad.

○...estoy muy de acuerdo

○...estoy de acuerdo

○...estoy indeciso

○...estoy en desacuerdo

○...estoy muy en desacuerdo

24. ¿En qué clase de escuela preferiría usted trabajar?

○...en una escuela donde hay más estudiantes que hablan inglés

○...en una escuela donde los estudiantes hablan inglés y español

○...en una escuela donde hay más estudiantes que hablan español

○...no tengo preferencia

25. If I had the choice, I would like to work in a school that received Title I funds:

○...strongly agree
○...agree
○...uncertain
○...disagree
○...strongly disagree

26. Because of ability grouping of students in some schools, teachers work with children at predominantly one ability level. Which of the categories below best fits your classes?

○...high ability
○...average ability
○...combination of various ability groups
○...ability grouping is not used in my school

27. Generally, how would you rate the interest in studying by the majority of students in your class?

○...excellent
○...good
○...average
○...fair
○...poor

28. The students in my classroom perceive the role of the teacher and the teacher's aide as interchangeable.

○...strongly agree
○...agree
○...no opinion
○...disagree
○...strongly disagree
○...three is no aide in this classroom

29. The principal is proficient in:

○...only English
○...both English and Spanish
○...only Spanish
○...other language

25. Si pudiera escoger la escuela en donde trabajar, escogería una escuela que recibe ayuda de Título I.

○...muy de acuerdo

○...de acuerdo

○...indiferente

○ ..en desacuerdo

○...muy en desacuerdo

26. Como una consecuencia del agrupamiento de estudiantes en algunas escuelas, los maestros trabajan con estudiantes que tienen un nivel de habilidades muy similar. ¿Cuál de los siguientes niveles categoriza mejor su clase?

○...alto nivel

○...mediano nivel

○...combinación de varios niveles

○...en mi escuela no se categoriza a los estudiantes

27. En general, ¿cómo valora usted el interés en estudiar de la mayoría de los estudiantes de su clase?

○...excelente

○...bueno

○...regular

○...mediocre

○...inferior

28. Los estudiantes en mi clase perciben que el papel del maestro y asistente es intercambiable.

○...muy de acuerdo

○...de acuerdo

○...indiferente

○...en desacuerdo

○...muy en desacuerdo

○...no hay ayudante en la clase

29. El Director de la escuela puede comunicarse en

○...solamente en idioma inglés

○...ambos idiomas inglés y español

○...solamente en idioma español

○...otra idioma

30. How much time do you think should be devoted to the teaching of cultural heritage of Spanish speaking people?

○...less than one hour per week
○...one hour per week
○...two hours per week
○...more than three hours per week

PLEASE NOTE: If your school has a specific bilingual program, please answer the following questions 31 through 52

31. How many years have you taught in a bilingual program?

○...less than 1 year
○...1 year
○...2 years
○...3 years
○...4 years
○...5 years
○...more than 5 years

32. How much college training have you had specifically devoted to bilingual-bicultural education?

○...1-5 quarter units (1-3 semester hours)
○...6-15 quarter units (4-10 semester hours)
○...16-30 quarter units (11-20 semester hours)
○...more than 30 quarter units (more than 20 semester hours)
○...I have received no college training in bilingual-bicultural education

33. How much time in inservice or school district workshops specifically devoted to bilingual-bicultural education have you had?

○...1 day or less
○...2-15 days
○...15-30 days
○...more than 30 days
○...I have not attended any workshops

30. ¿Cuánto tiempo cree usted que debe dedicar a la enseñanza de la cultura de los estudiantes de habla hispana?

○...menos de una hora por semana

○...una hora por semana

○...dos horas por semana

○...más de tres horas por semana

POR FAVOR, NOTE: Si su escuela tiene un programa bilingüe, conteste las preguntas 31-53.

31. ¿Cuántos años ha usted enseñado en un programa bilingüe?

○...menos de un año

○...1 año

○...2 años

○...3 años

○...4 años

○...5 años

○...más de 5 años

32. ¿Cuánto tiempo en la universidad ha dedicado usted al entrenamiento para la educación bilingüe-bicultural?

○...1-5 quarter units (1-3 horas semestrales)

○...6-15 quarter units (4-10 horas semestrales)

○...16-30 quarter units (11-20 horas semestrales)

○...más de 30 quarter units (más de 20 horas semestrales)

○...no he seguido cursos de entrenamiento en educación bilingüe-bicultural a nivel universitario

33. ¿Cuánto tiempo ha dedicado usted en asistir a reuniones ("Inservices or workshops") presentadas por el distrito con el tema de educación bilingüe-bicultural?

○...1 día o menos

○...2-15 días

○...15-30 días

○...más de 30 días

○...no he asistido a ninguna reunión

34. Within the last five years how much time have you spent at state or national conferences specifically devoted to bilingual-bicultural education?

○...1 day or less

○...2-15 days

○...15-30 days

○...more than 30 days

○...I have not attended any state or national conferences

34. ¿Durante los últimos cinco años, cuánto tiempo ha dedicado en atender conferencias al nivel nacional o estatal con el tema de educación bilingüe-bicultural?

○... 1 día o menos

○... 2-5 días

○... 15-30 días

○... más de 30 días

○... no he asistido a ninguna conferencia

35. Based on your experience in a bilingual-bicultural classroom, rate the training you have received in terms of how well it has prepared you for the following:

	College Training	Workshops	Conferences
Bilingual-bicultural teaching strategies	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area
Development of bilingual-bicultural curriculum materials	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area
Reading instruction in English	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area
Reading instruction in Spanish	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area	○ Definitely worthwhile ○ Somewhat worthwhile ○ Waste of time ○ No training in this area

35. Tomando en cuenta su experiencia en el programa bilingüe-bicultural, evalue el entrenamiento que ha recibido para ayudarle en los siguientes temas:

	Entrenamiento Universitario	"Workshops"	Conferencias
La aplicación de estrategias en la enseñanza de educación bilingüe-bicultural	○ muy útil ○ mas o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve namiento en esta área
La preparación de materiales en la enseñanza educacional bilingüe-bicultural	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área
La enseñanza de lectura en inglés	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área
La enseñanza de lectura en español	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área

	College Training	Workshops	Conferences
Language Arts - English	○ Definitely worthwhile	○ Definitely worthwhile	○ Definitely worthwhile
	○ Somewhat worthwhile	○ Somewhat worthwhile	○ Somewhat worthwhile
	○ Waste of time	○ Waste of time	○ Waste of time
	○ No training in this area	○ No training in this area	○ No training in this area
Language Arts - Spanish	○ Definitely worthwhile	○ Definitely worthwhile	○ Definitely worthwhile
	○ Somewhat worthwhile	○ Somewhat worthwhile	○ Somewhat worthwhile
	○ Waste of time	○ Waste of time	○ Waste of time
	○ No training in this area	○ No training in this area	○ No training in this area
Understanding students from various cultural backgrounds	○ Definitely worthwhile	○ Definitely worthwhile	○ Definitely worthwhile
	○ Somewhat worthwhile	○ Somewhat worthwhile	○ Somewhat worthwhile
	○ Waste of time	○ Waste of time	○ Waste of time
	○ No training in this area	○ No training in this area	○ No training in this area
Home-school relations (including encouraging community involvement)	○ Definitely worthwhile	○ Definitely worthwhile	○ Definitely worthwhile
	○ Somewhat worthwhile	○ Somewhat worthwhile	○ Somewhat worthwhile
	○ Waste of time	○ Waste of time	○ Waste of time
	○ No training in this area	○ No training in this area	○ No training in this area

	Entrenamiento Universitario	"Workshops"	Conferencias
La enseñanza del idioma inglés	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área
La enseñanza del idioma espanol	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta area	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta area	○ muy útil ○ más o menos útii ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta area
La comprensión y apreciación de estudiantes de varios grupos culturales	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área
El establecimiento de mejores relaciones entre la familia y la escuela y aumentando la participación de la comunidad en los programas de la escuela	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil,pérdida de tiempo ○ no tuve entrenamiento en esta área	○ muy útil ○ más o menos útil ○ inútil, pérdida de tiempo ○ no tuve entrenamiento en esta área

36. In my opinion I have been sufficiently involved in the program planning and implementation of the bilingual project in my school.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

37. In my opinion my suggestions and input are valued by the administration of the bilingual project.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

38. In my opinion I have been sufficiently involved in the development of materials for this project.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

39. In my opinion I have the authority to make changes that are necessary in the program.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

40. How often do you meet with the project director?

○...daily
○...at least once a week
○...at least once a month
○...at least once a year
○...I have not met the project director

36. En mi opinión la administración me ha dado la oportunidad para contribuir adecuadamente en el planeamiento y desarrollo del proyecto bilingüe en mi escuela.

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

37. En mi opinión mis sugerencias y consejos son apreciados por la administración del proyecto bilingüe

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

38. En mi opinión he participado bastante en el desarrollo de los materiales para el proyecto

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

39. En mi opinión, tengo la autoridad para hacer cambios que sean necesarios en el programa

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

40. ¿Cuántas veces se reune usted con el director del proyecto?

○...diariamente
○...por lo menos cada semana
○...por lo menos cada mes
○...por lo menos cada año
○...no me he reunido con el director del proyecto

41. The school principal shows interest in the bilingual program.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

42. How often do the project director and the school principal meet together?

○...often
○...sometimes
○...never
○...I don't know

How do you think the non-program teaching staff views the bilingual project?

○...an innovative educational program for all children
○...an educational program for Spanish speaking children
○...a remedial educational program for Spanish speaking children
○...I don't know

44. The project director's leadership qualities are

○...excellent
○...good
○...fair
○...poor
○...no opinion

45. The project director is knowledgeable about instructional programs and materials and their implementation in the bilingual program.

○...strongly agree
○...agree
○...disagree
○...strongly disagree
○...no opinion

41. El principal de la escuela muestra interés en el proyecto bilingüe

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

42. ¿Cuántas veces se reunen el director y el principal?

○...frecuentemente
○...de vez en cuando
○...nunca
○...no lo sé

43. En su opinión, cual es la actitud acerca del programa bilingüe por parte de los maestros que no participan en el programa

○...que es un programa innovante para todos los niños
○...que es un programa educativo solamente para niños que hablan español
○...que es un programa adecuado para niños que hablan español y que necesitan ayuda especial (remedial)
○...no lo sé

44. En su opinión, la dirección del director del proyecto bilingüe es

○...excelente
○...bueno
○...regular
○...pobre
○...no tengo opinión

45. El director del proyecto sabe mucho acerca de las técnicas de enseñanza y los materiales usada en el programa bilingüe

○...muy de acuerdo
○...de acuerdo
○...indiferente
○...en desacuerdo
○...muy en desacuerdo

46. How would you rate the project director's effectiveness with the parents of the children in the bilingual program?

○...effective with most parents
○...effective with some parents
○...ineffective with most parents
○...no opinion

47. How would you rate the principal's effectiveness with the parents of the children in the bilingual program?

○...effective with most parents
○...effective with some parents
○...ineffective with most parents
○...no opinion

48. The project director is proficient in

○...English
○...both English and Spanish
○...Spanish
○...I don't know

49. Is bilinguality encouraged by the teaching staff who are in contact with the students in the bilingual program?

○...all of the time
○...some of the time
○...seldom
○...never

50. Overall, I would rate the bilingual program in my school as being:

○...very effective
○...effective
○...ineffective
○...very ineffective
○...no opinion

46. En su opinión, ¿qué le parece la eficiencia del director del proyecto bilingüe para establecer comunicación con los padres de familia?

○...es eficiente con la mayoría de los padres

○...es eficiente con algunos de los padres

○...no es efectivo

○...no tengo opinión

47. En su opinión, ¿qué le parece la eficiencia del director de la escuela para establecer comunicación con los padres de familia?

○...es eficiente con la mayoría de los padres

○...es eficiente con algunos de los padres

○...no es efectivo

○...no tengo opinión

48. El director del proyecto puede comunicarse muy bien en

○... inglés

○... inglés y español

○... español

○...no lo sé

49. ¿Con qué frequencia el profesorado de su escuela que está en contacto con los estudiantes del proyecto bilingüe favorece el uso de inglés y español

○...todo el tiempo

○...de vez en cuando

○...rara vez

○...nunca

50. En mi opinión el proyecto bilingüe en mi escuela es

○...muy eficiente

○...eficiente

○...ineficiente

○...muy ineficiente

○... no tengo opinión

51. What is the attitude of non-program staff toward the bilingual program?

○...very positive
○...moderately positive
○...indifferent or neutral
○...moderately negative
○...very negative

52. How do non-program students feel towards students in the bilingual program?

○...they like them
○...they are indifferent or neutral
○...they dislike them

51. ¿Cual es la actitud del personal de la escuela que no participa en el programa bilingue hacia el mismo?

○...muy positiva

○...moderada

○...neutral

○...moderatamente negativa

○...muy negativa

52. ¿Cuál actitud cree usted que tienen los alumnos que no participan en el programa bilingüe hacia los alumnos participantes?

○...les gustan

○...son indiferentes

○...no les gustan

EVALUATION OF THE TITLE VII SPANISH/ENGLISH BILINGUAL PROGRAM – IMPACT STUDY
Conducted by the American Institutes for Research
Under Contract to the U.S. Office of Education

Office of Management and Budget
No. 51-S75056
Approval expires July 1976

STUDENT QUESTIONNAIRE (A)

IF THIS IS NOT
YOUR NAME ➡
RAISE YOUR HAND.

ATTACH LABEL HERE

I AM: ○ A BOY ○ A GIRL

I WAS BORN ______________________________
MONTH DAY YEAR

FOR OFFICIAL USE ONLY

○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○	○	○

INSTRUCTIONS

Please answer the questions on the following pages. Follow these rules:

1. Be sure to use a No. 2 pencil to mark your answers.
2. Blacken the circle to the left of the answer you choose for each question.
3. If you change your mind about an answer, erase your old answer completely.
4. Do not make any other marks on the pages.

(OVER)

Prepared and Processed by American Survey Research Corp., 7851 Metro Parkway, Minneapolis, Minn. 55420

Please answer the following questions by filling in the circle in front of the answer you choose. Try to answer every question.

EXAMPLE:

A. Have you been to Spain?
○ yes
○ no

If you have been to Spain, you should have filled in the circle in front of "yes".
● yes
○ no

If you have not been to Spain, you should have filled in the circle in front of "no".
○ yes
● no

EXAMPLE:

B. Have you traveled by airplane?
○ yes
○ no

If you have traveled by airplane you should fill in the circle in front of "yes".
● yes
○ no

If you have never traveled by airplane you should fill in the circle in front of "no".
○ yes
● no

Be sure to fill in one circle for each question.

---

1. The language I speak best is
○ Spanish
○ English
○ Spanish and English about the same
○ Another language. Which one?
____

2. I think I do good schoolwork.
○ yes
○ no
○ I don't know

3. I like to speak Spanish
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I don't speak Spanish

4. I like to speak English
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I don't speak English

5. I like doing songs, dances and plays in Spanish
○ A lot
○ It's O.K.
○ Not much
○ I don't like them at all
○ We don't do Spanish songs, dances or plays

6. I like doing songs, dances and plays in English.
○ A lot
○ It's O.K.
○ Not much
○ I don't like them at all
○ We don't do English songs, dances or plays

7. I like reading in Spanish
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I don't read in Spanish

8. I like reading in English
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I don't read in English

9. Can you understand Spanish?
○ Yes, very well
○ Yes, more or less
○ No I can't

10. Can you speak Spanish?
○ Yes, very well
○ Yes, more or less
○ No I can't

11. Can you understand English?
○ Yes, very well
○ Yes, more or less
○ No I can't

12. Can you speak English?
○ Yes, very well
○ Yes, more or less
○ No I can't

13. Do most of your classmates like you?
○ Yes
○ No
○ I don't know

14. How do you like school?
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all

15. How do you like learning Spanish?
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I'm not learning Spanish

16. How do you like learning English?
○ A lot
○ It's O.K.
○ Not much
○ I don't like it at all
○ I'm not learning English

17. Making friends is easy for me.
○ Yes
○ No
○ Sometimes

18. My teacher thinks
○ I am a good student
○ I am an average student
○ I am not a good student

19. My parents want me to do good schoolwork
○ yes
○ they don't care
○ I don't know

20. How often do you and your parents talk about your schoolwork?
○ just about every day
○ once or twice a week
○ almost never

21. How important is it to your parents that you learn Spanish?
○ Very important
○ Important
○ Not very important
○ They don't care

22. How important is it to your parents that you learn English?
○ Very important
○ Important
○ Not very important
○ They don't care

STUDENT QUESTIONNAIRE

INSTRUCTIONS:

Dear Student,

We would like to know how you feel about the following questions. Please answer by marking with an "X" the face which fits how you feel.

☺ The smiling face means that it makes you feel good and happy.

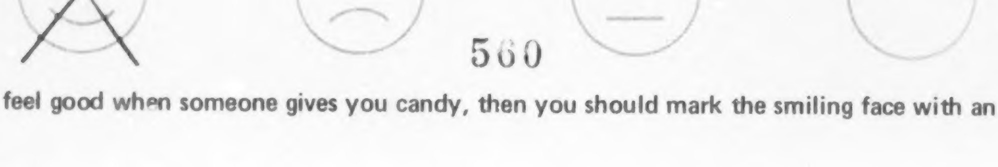
☹ The face with the frown means that it makes you feel bad and unhappy.

😐 The face with the straight mouth means you don't feel either good or bad; you don't care about the question.

○ Some questions won't apply to you. Maybe you can't answer them. For those you should mark the empty or blank face.

EXAMPLES:

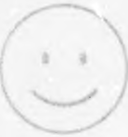
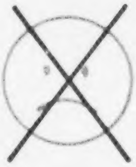
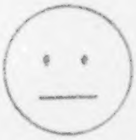
A. When someone gives me candy, I feel



If you feel good when someone gives you candy, then you should mark the smiling face with an "X".

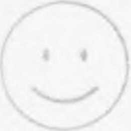
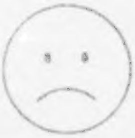
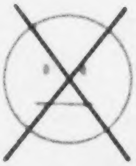
1 2 1 2 4 4 8 1 2 4 8

B. When I have a stomach ache, I feel

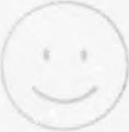
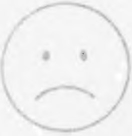
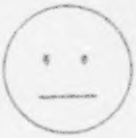
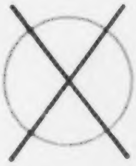
If you feel bad when you have a stomach ache, then you should mark the frowning face with an "X".

C. When I wash my hands, I feel

If you don't feel either good or bad when you wash your hands, you should mark the face with the straight mouth with an "X".

D. When I'm learning German, I feel

If you're not learning German, this question doesn't apply to you and you should answer by making an "X" on the blank face.

Remember to mark only one face for each question.

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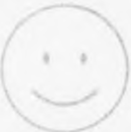
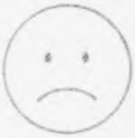
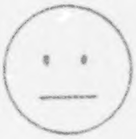
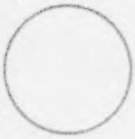
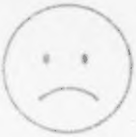
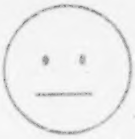
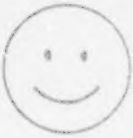
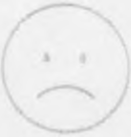
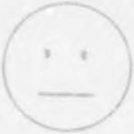
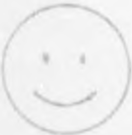
1. When I go to the teacher's helper for help with my work, I feel

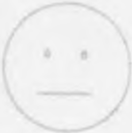
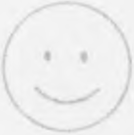
2. When I think about the teacher's helper, I feel

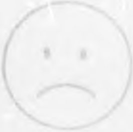




3. When I am learning about Spanish speaking people, I feel

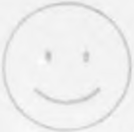
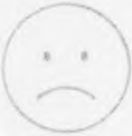
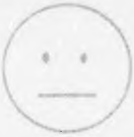
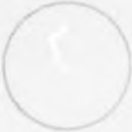




4. When I am learning about English speaking people, I feel

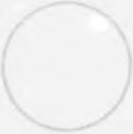
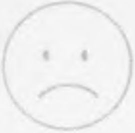
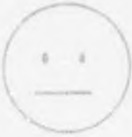
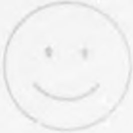





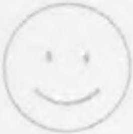
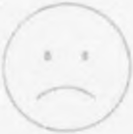
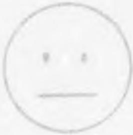
5. When one of my classmates asks me for help with his work, I feel

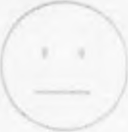
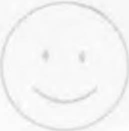
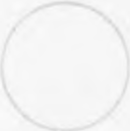
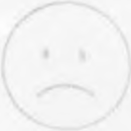
6. When I ask one of my classmates for help, I feel

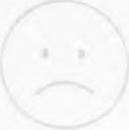
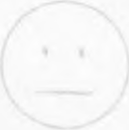
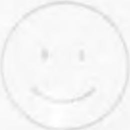
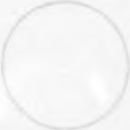
7. When I'm at home, I feel

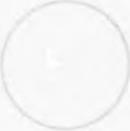
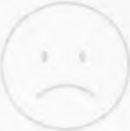
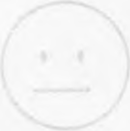
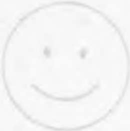
8. When I'm at school in the classroom, I feel

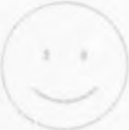
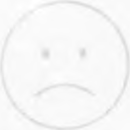
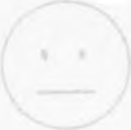
9. When I'm at school on the playground, I feel

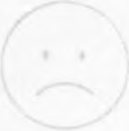
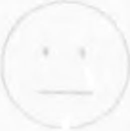
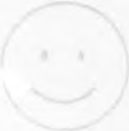
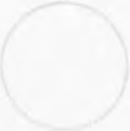
10. When I'm with classmates who speak only Spanish, I feel

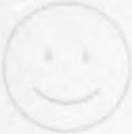
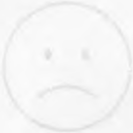
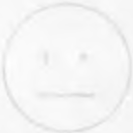
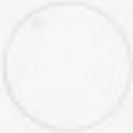
11. When I'm with classmates who speak only English, I feel

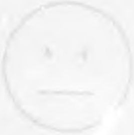
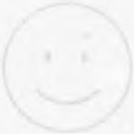
12. When I'm with classmates who speak English and Spanish, I feel

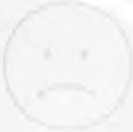





13. At school, when I speak Spanish, I feel

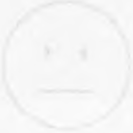
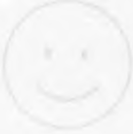
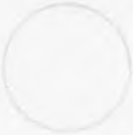
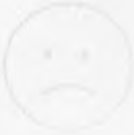





14. At school, when I speak English, I feel

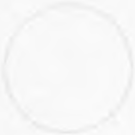
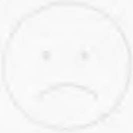
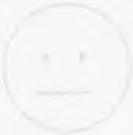
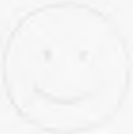





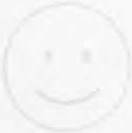
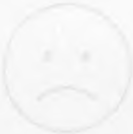
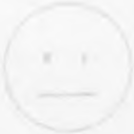
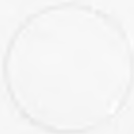
15. At home, when I speak Spanish with my family, I feel

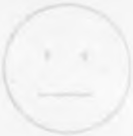
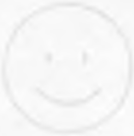
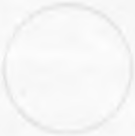
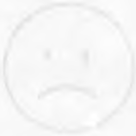
16. At home, when I speak English with my family, I feel

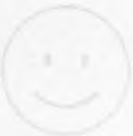
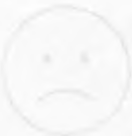
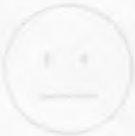
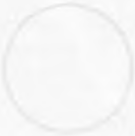
17. When the teacher speaks to me in Spanish, I feel

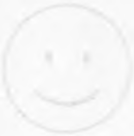
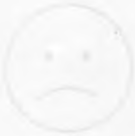
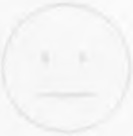
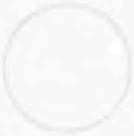
18. When the teacher speaks to me in English, I feel

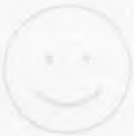
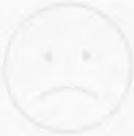
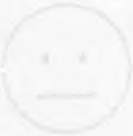
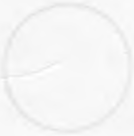
19. When the teacher's helper speaks to me in Spanish, I feel

20. When the teacher's helper speaks to me in English, I feel

21. When I'm in the classroom studying in a group, I feel

22. When I'm in the classroom studying by myself, I feel